



THE CHILD OF ELEVEN

by D. V. Skeet

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"This examiner strikes some adults as being rather eccentric. To a large extent, their criticisms come from lack of knowledge and evidence, and this book is addressed to those who, while not familiar with the history and methods of selection procedure, are anxious to understand what is being done. For this examiner is not playing a complicated game for his own amusement, nor inventing riddles to show off his own cleverness; he is using scientific methods to help him solve a difficult problem."

From the Author's Introduction

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The Child of Eleven

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A BRIEF SURVEY OF
TRANSFER TESTS BETWEEN
PRIMARY AND SECONDARY SCHOOLING

D.V. Skeet



1382



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Introduction

THE great majority of English children are educated in schools that are partly or wholly run at public expense, and for them a big change comes when they are eleven. The Education Act of 1944 has decreed that, at that age, they are to go to secondary schools to be educated in accordance with their ability and aptitude.

Now, as children vary in ability and aptitude, secondary education must presumably take different forms if it is to suit them all. In most areas there are now three kinds, provided in Grammar Schools, Technical Schools, and Modern Schools, and, for reasons that will appear, the public tend to look on these last as inferior to the others. This is a serious criticism of the present set-up.

A few areas provide these different forms of education within large, single schools, but at present most authorities pick their ablest pupils and put them into Grammar Schools. The child of eleven is thus caught up in a great machine that is trying to discover how intelligent he (or she) is, and he has to polish his wits to satisfy an examiner.

This examiner strikes some adults as being rather eccentric. To a large extent, their criticisms come from lack of knowledge and evidence, and this book is addressed to those who, while not familiar with the history and methods of selection procedure, are anxious to understand what is being done. For this examiner is not playing a complicated game for his own amusement, nor inventing riddles to

INTRODUCTION

show off his own cleverness, but is using scientific methods to help him solve a difficult problem.

Parents of young children may find reassurance here, and those who do not may perhaps be led to suggest something better. Ideas are bubbling at present, but what will be distilled out of them depends on how well-informed they are to start with. The people who demand a different experience for the future child of eleven must first have a clear picture of what is happening to him now, so that criticisms are made for real reasons of educational importance. Changes may be needed, whether in minor details or in basic principles, but in pressing for changes we ought to bear in mind that it is not systems that matter, but children. The earlier chapters that follow try to show what the present eleven-plus technique does, while the later ones attempt to suggest how much change is desirable.

Haphazard Beginnings

FIRST we need to look more closely at the various kinds of school that early times produced. Their history accounts for the varying regard in which they are now held.

The old "elementary" schools developed during the nineteenth century. The idea of educating the children of the poor was the result of action early in the century by philanthropic bodies. The State very slowly took an interest, but even after it began to provide a little of the money it left affairs almost entirely in the hands of those whose schools it was aiding.

It was not until the middle of the century that officialdom decided that the public should have value for money if education was to be subsidised, and the "payment by results" scheme was officialdom's way of justifying public spending. The idea was that the education a child received should be measured. The simple formula was adopted that if a school wanted its money, then its pupils must be able to do prescribed work in reading, writing, and cyphering. No pass, no money. Even a century ago the elementary schools were fighting for good examination results. The miserable effects on the less intelligent have been too often described to need emphasising again, yet the system, though modified, continued for many years.

At this time education was not compulsory, but it was an

age in which the value of education, particularly as a means of "bettering oneself", was increasingly realised, and the 1870 Act, which introduced Board Schools and brought elementary education to everyone, was generally welcomed. No higher ambition at first inspired the schools, or the pupils, than that of passing the annual examinations which the inspectors carried out, and children regularly left at the age of ten or eleven, having learnt all there was to be taught. Nevertheless, a few schools showed enterprise in going beyond the bare minimum demanded, and they persuaded pupils to stay on beyond the normal leaving age, so that very gradually the quality of the work improved. Even more gradually, the Government showed its approval by providing money for such schools, even where the courses of work did not come strictly within the regulations.

By the end of the century the elementary schools were catering, without payment of fees, for the great mass of children of the working classes. They taught them the rudiments of knowledge, and in many cases added more advanced work, chiefly of a vocational nature—especially in science. The pupils were staying at school till they were thirteen or fourteen, although the work done by those over twelve—the Ex 7 classes—was not highly organised, depending on local or personal initiative.

Meanwhile the independent schools had their Golden Age. Old foundations that had been moribund climbed into eminence, while new middle-class schools sprang up and flourished in all parts of the country. Their methods, at first tied to strictly classical teaching, gradually widened to include science and modern studies, as well as practical

work. The success of the Public Schools, as they are called, inspired imitators. The Grammar Schools may be described roughly as the poor relations of the Public Schools. They generally drew their pupils from their own area, whereas the others were more often boarding schools: they were usually less affluent, and could therefore not afford the facilities available in schools which collected their fees from wealthy Victorian business men. They were on the whole small, staffed by a headmaster and an assistant usher on starvation wages. These places nevertheless recognised the signs of the times, and modelling themselves on the successful big schools, improved rapidly during the century. There was virtually no link between them and the elementary schools.

The twentieth century found educational opinion ripe for change, and a new Act was made the more necessary by a court case, now known to have been engineered, which made it illegal to spend money on some of the work that was being done at the top of the elementary schools. As we look back now, we see that 1902, rather than 1944, was the time to look on all education as a whole, but the spirit of that age was not egalitarian, and the passions inflamed by the Act were of a very different kind. True, a Board of Education had been set up to see that education was effectively available at all ages and levels, but the rigid division between the elementary schools and the secondary schools was accepted so automatically that it was incorporated in the new administrative machine, and for the next forty years they continued on their separate ways.

Their ways were indeed separate. It was not simply that

they were thought to have separate aims—the one to combat sheer illiteracy, the other to develop the intellectually gifted; the one to serve utilitarian ends, the other to make cultured leisure possible. The differences appeared in all the details of their existence. They had quite separate administrative headquarters at the Board; the money spent on secondary schools was much greater than that on which the elementary schools had to manage; the teachers were paid (when national scales appeared) on quite separate salary scales; the elementary school teachers were trained in two-year courses at special colleges, whereas the secondary schools recruited mostly from University graduates, not necessarily trained at all as teachers; by and large, a different group of inspectors examined and advised the secondary schools. Other factors contributed to the reputation of the secondary schools. From the nature of the case, their pupils stayed longer, and so provided worthy Sixth Forms. As external examinations developed, the School Certificate came into its own, and later the Higher School Certificate. Employers and professional bodies came in time to demand the possession of a School Certificate, less for what it recorded than as evidence of the successful completion of a Grammar School course. A more subtle difference lay in the fact that the Grammar Schools charged fees, and it is a human weakness to suppose that you get better service if you personally pay for it.

For all these and other reasons it was the turn of the Grammar Schools, in the first half of the twentieth century, to have something like a Golden Age. The Public Schools were running into difficulties, while the elementary schools

were very much out in the cold. For all except the few who could afford the fees of the independent schools, the Grammar School was the pinnacle of achievement for their children. Little thought was given to the possibility that the children might have no bent for an academic training and no prospect of a University career; the school was not expected to train them for their future work, but simply to provide them with a testimonial. It was not even necessary for the testimonial to be a written one. It was enough that the child had been to a Grammar School. Indeed, for some twenty years or more after 1902 this idea of the Grammar School as the donor of some magic power was so strong that it was enough even to touch the hem of its garment, as it were. Parents paid for their children to spend just a year or two there, and to leave at fourteen like their elementary brothers.

The great success of the Grammar Schools was made more prominent by a big increase in their population. This was due partly to the Charity Commissioners who were more generous with their funds in the nineteenth century, but chiefly to the provisions of the 1902 Act, which laid upon local education authorities the duty of providing secondary schools where such did not already exist, or were not sufficient. At this point yet another major administrative decision caused a wide cleavage between the elementary and secondary schools, and emphasised the low esteem in which the former were held. Some towns were given permission to organise their own elementary schools, but were regarded as not competent to provide for higher education, which had to be run by the County Councils.

The favoured authorities whose duties did include the provision of secondary schools set about their task with no little enthusiasm in most parts. Old schools were taken over or helped, new ones sprang up in hundreds. Generally speaking, these basked in the sunshine of goodwill that beamed from the Education Committee, the Chief Officers, and the professional educationists. In the circumstances, it was inevitable that there should be widespread demands for more and more children to be let into the secondary schools. The famous educational ladder from the elementary school to the University, the nineteenth-century reformer's dream, became practical politics with the passing of the 1902 Act. Not very much money was made available—less in some areas than others. It was felt that Grammar School education was a middle-class preserve, in the same way that the upper classes monopolised the Public Schools, and a breakthrough by a working-class child brought a pat on the back for the child, but was regarded as rather the exception and not to be overdone. However, the number of "scholarship" holders steadily increased, and with the introduction, at the top end, of a few State Scholarships to the University, the educational ladder was an unbroken one, though it was too narrow to accommodate many at a time.

Between the two wars it became normal for the secondary schools to have a high proportion of pupils who did not pay fees because they had reached a certain examination competence, and had thus "passed the scholarship". In some schools the proportion reached one hundred per cent. The depression era compelled the authorities to look more care-

fully into parents' income before remitting all fees; even so, the majority of secondary school children paid no fees, and came from elementary schools. It was indeed the firm condition of an award of a place at public expense that the child concerned should in fact have previously attended a public elementary school. Examples occurred of parents who transferred their nine-year-old children from private schools for a couple of years in order to qualify for the right to a scholarship place, but the practice dwindled as means tests became more common.

Meanwhile, despite the prestige of the Grammar School in the mind of the average parent, the elementary schools had not been standing still. They steadily improved their own standards and aims, within the financial limits decreed for them, and embarked on a number of interesting experiments. While the ladder to the Grammar School was still in a shaky state, some areas were arranging for Central Schools to receive all the older pupils from the villages and suburbs, and educate them together. Woodwork and science, for example, were normal additions to the usual "elementary" teaching, and vocational training became possible.

The success of the Central School idea led to an extension of the scheme. Some authorities took just the best of those not at Grammar Schools and put them into special Central Schools that could be more ambitious in their aims. The Grammar School had already taken the most able: this second "creaming" (as it is called in educational circles) thus brought together those who had just failed to enter the Grammar School, and made possible a course of study that in some respects resembled that in the secondary schools,

and included all the best features of the older, non-selective, Central Schools. The elementary schools were working towards the general system of sorting the older pupils into schools where each could be suitably educated according to his ability. The idea is so obvious and sensible that none of the present-day heartburning might have been experienced if only the top layer of all—the Grammar School—did not seem to be in a class apart.

This general idea of grading *all* older children, vague for a long time, was crystallised in 1926, when the Hadow Report, entitled "The Education of the Adolescent", made the far-reaching proposal that every pupil should leave his junior school at the age of eleven, and make a fresh start with more mature studies in some other type of school: the type would depend on the child's aptitude and ability. The distinction between "secondary" and "elementary" ought to go: better terms, it was suggested, were "primary" and "post-primary", and it goes without saying that the post-primary schools included Grammar Schools.

The Hadow Report made a deep impression both on theorists and on those—teachers and administrators alike—engaged in the actual practice of education. Thereafter the goal of all progressive authorities was to complete its "Hadow reorganisation", and many of them have already gone a long way towards completion. But in one vital point this reorganisation departed from the suggestions of the Hadow Report: no serious attempt was made to bring the Grammar Schools into the scheme directly. What was attempted was the building of schools which would take from all-age elementary schools their senior pupils so that

children over eleven would physically move into a different building for their post-primary education. Many more Senior Schools and Central Schools, selective and otherwise, came into being, and their pupils in many instances pursued a worthwhile three-year course.

This was not all. For half a century there had been attempts to develop technical training to meet the needs of an industrial country in a competitive age, but success had not been spectacular. Although the Technical College, for those over school age, flourished and expanded, the Junior Technical School never became fashionable enough to be a serious alternative to the Grammar School. There was very little transfer from the Grammar to the Technical Schools, which, consequently, drew most of their pupils from the elementary schools. It is probable that, on the whole, they received the best of those available, but the material was just not good enough to enable the schools to make a real reputation. They acquired that indeterminate aura which still surrounds them in general, of being an idea worth thinking about, but not up to the standard of the Grammar Schools. They became a middle way between "secondary" and "elementary", and thus the notion grew, and is yet with us, that secondary schools of all types can be graded into Best, Next-Best, and the Rest, or Grammar Schools, Technical Schools, and all others.

Thus were fundamental questions settled by administrative accident, though in fact several questions are still unanswered. Such questions are: Should children be put into different kinds of school? If so, is the distinction to be that of "academic" as opposed to "practical" ability? Can

we know which children of eleven are likely to profit from a certain sort of education? If so, are we using the best methods now?

The Public Schools have not been worried about these questions, and have continued, despite fluctuating fortunes, to attract the wealthiest parents. The rather rigid class distinction that they imply has been losing favour with public opinion for many years, but it is noteworthy that the usual approach to this problem is not to abolish the schools but to let more into them. This was the subject of definite proposals in the Fleming Report of 1944, but not all the Public Schools are carrying out the suggestions of that Report, and most authorities, in any case, are reluctant to use the powers they have under the 1944 Act to send pupils to them. As a result, there has been comparatively little movement between the Grammar Schools and the Public Schools, so that, for the mass of the country, the Grammar School has kept its great popularity.

The one thing obvious, therefore, by the 1940s was that the numerous schools attended by the over-elevens were not looked on with equal respect. They formed a hierarchy of their own, and parents who wanted to see their children get on were intent on moving steadily upwards in the scale. The essential feature of the 1944 Act is that this hierarchy is a fiction: or, if it is a fact, the fact must be changed. Between post-primary schools there is to be no moving up or down, but only sideways. Whether this state of affairs is desirable, and whether it will ever be achieved, only the future can show: the one certain thing is that it is not true now. Hence all the problems that are briefly surveyed in this book.

Progress by Examination

THE movement up the educational scale was brought about by examination. For the child in humble circumstances this meant the "scholarship", later the Special Place examination, and as the candidates were all taken from the elementary schools, the examination must ask questions of a kind which the elementary teaching would enable them to answer.

This made the problem look easy. There was a very long tradition that the function of the elementary schools was to teach reading, writing, and arithmetic. If the examination was to be disposed of in one day (a great convenience), there would not be time to listen to each child reading: therefore the test must deal with writing and arithmetic.

Most of the scholarship examinations of earlier years were in two parts:

(1) Write an essay on . . ., combined occasionally with one or two English comprehension questions.

(2) Do the following sums. These were sometimes divided into the "mental" kind, for which only the answer had to be written down, and those for which the working had to be shown in full.

The purpose of this scholarship examination was simple enough: it was to find the ablest children of about ten or eleven (the age varied from one area to another) and give them the chance of entering the secondary schools. The

parents could refuse to accept the offer, and sometimes did, but most of them were eager for their children to do better than they had done themselves. These prodigies were not the only pupils in the "secondary" schools: they formed a definite proportion of the total. This proportion was not the same in all schools, and in some it was very low. The figure was reached by negotiation, and roughly it varied with the amount of money by which the school was subsidised by the Authority. The rest of the Grammar School population consisted of those whose parents paid fees, usually of the order of £15 a year.

The restriction on the number of places available for the gifted elementary school children meant that there was fierce competition for them. This in its turn meant that there was intense disappointment at failure to "win a scholarship". Furthermore, head teachers could generally be persuaded to accept as a fee-payer, if the parents had the money, one who had just failed the examination, and the subsequent school careers of the pupils showed that the original scholarship results were by no means always reliable. Those who had failed quite often did better afterwards than those who had passed.

There are various possible explanations of this, which will be discussed at greater length as this book proceeds, but one quickly caught the attention of experts, namely, that the examination itself was not a good one for finding the best children, or, if it was, it was not being marked satisfactorily. Such an idea was near to sacrilege at a time when examinations as such were deeply revered as instruments for deciding promotion, but it was brought forward

and discussed with such effect that the type of examination used came to be enormously modified within a couple of decades.

At this point the discerning reader may enquire what need there was for an examination at all. If its sole purpose was to identify those who could best write and figure in the elementary schools, surely the answer was very easily found by looking at the mark registers of those who had been teaching them. If A, B, C were the top three of the class, they were, if schools knew their job at all, the best candidates for promotion to the "secondary" school. Unfortunately this was not, and to this day is not, a workable method of awarding a limited number of places, because the children are being drawn from several different schools. While it is true, and acceptable, that these top three are the best, *compared with the others in their own school*, they may be nothing like so good as the thirtieth or sixtieth in another school. This must automatically apply to a small school, and in practice it seems also to apply to rural schools.

But suppose this be granted: the reader may well say that, even so, teachers are experienced men and women, who can themselves accurately weigh up their pupils. Chapter VII will indicate why this idea is impracticable, and in any case, even if the teachers were superhumanly impartial and well informed in their judgments, there would always remain the final obstacle of more recommended candidates than places available. How is the number in the end to be whittled down? Only one way has commended itself to authorities hitherto: by examination.

So the "scholarship" climbed to eminence, and the



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English and Arithmetic papers made their annual onslaught on the nerves and capabilities of thousands of youngsters. Ingenious teachers devised numerous methods of getting their pupils through. Dodges in mental arithmetic were practised by the hour, English examples of limited value repeated *ad nauseam*. At home the pressure was often as bad, and sometimes more insidious in that it took a moral form; the admonitions and urgings, the warnings, threats, and entreaties, could turn a normally healthy child into a bundle of nerves. Small wonder that he sometimes fared ill on the day of battle; we can understand how some such might later become successful, albeit fee-paying, pupils. The home could also supplement the school in the direct coaching of the child. Parents or employed outsiders would impose homework and study out of all proportion to the child's capacity to cope with it.

Despite these obvious disadvantages, one fact unfortunately stood out: those schools which concentrated on this single objective secured the best results, and parents who drove their children and paid for extra tuition got unexpected places for weak candidates. And so it came about that enlightened educationists sought some other way of selecting able children, that would not be affected by intensive coaching, and their enquiries took them into the same paths as were reached by other searchers who were approaching the problem from a different direction. Within a few years the venerable "scholarship" was torn to pieces.

There are two questions which need to be asked about the worth of any examination: first, Is this examination valid? and secondly, Is it reliable? The validity and reliability

of any measurement are quite different things, and both must be above suspicion if the measurement is to be trusted.

The question, Is this test valid? is equivalent to asking, Does it really test what it claims to test? Let us suppose that for some reason a factory manager wishes to engage workers with a very discriminating sense of taste. It is difficult to measure taste objectively, and if he wanted only the best two or three tasters out of a large number of job-hunters, he would pine for some testing process that he could easily convert into a definite order of merit. He might, by mere guesswork, decide that those who could drink the greatest quantity of apple juice in a given time would have the best sense of taste, and he would thus invent an "examination" whose results could be directly measured. If he were a thorough investigator, he would take on employees from the bottom of his drinking scale, and some outsiders, and compare their ability later to do his tasting; he would then be testing the validity of his examination. If it failed, he would guess something else and try again, and it is even possible that, by thought or good fortune, he would hit on some test that really did put his applicants into an order of ability at tasting: he would have found a valid examination.

Some of the previous paragraph might be rewritten on lines like these. If it is desired to find the children best suited to a Grammar School education, the authority can organise a standard series of questions to be answered, and let the children deal with them at an examination centre. On the basis of the marks gained in that examination, some are sent to Grammar Schools, and if the examination was valid

their success in later years would approximately reflect the result of the earlier examination. But many investigations, large and small, have shown that the old Special Place examinations failed to arrange the children in an order of merit that remained constant during the years spent at the secondary school. The inference was that the examination did not find the right people, and was therefore not valid.

At the same time the examination was being even more sharply criticised on the grounds of its unreliability. The question, Is this examination reliable? is equivalent to asking, If different examiners marked it, would it get the same mark from each? The marking of examinations is very much of a mystery to the layman who (unless he is disgruntled because of some failure affecting himself) vaguely assumes that the experts must know if an answer is right or wrong, or a bit of each, and can assign marks accordingly. It is possible that the experts themselves used to believe this, but those who were puzzled at many strange results developed misgivings, and gradually various investigators set about the task of trying to find how far examiners' marks were in fact reliable.

A few simple examples will make clear some of the difficulties. The reader is invited to become an examiner for a moment and assign marks to this "paper".

English Essay

Write an essay on the life of a cat.

Answer I

The cat is a nice animal to handle, all furry. We have

two cats at home, one is called Tibs, it is black, the other is Betty, and she has a white spot on her nose. I think cats are very nice. When I grow up, I shall always have a cat, so I shall never be lonely, because a cat is good company.

Answer 2

The cat is distantly related to the lion, which inhabits tropical areas in Africa. The relationship is seen in the claws, the agility, and the general appearance. There is no doubt that the English domestic cat was once wild, and indeed it is not completely tame, in the full sense, even today. Its value to Man is very great.

Remember that these summaries represent but two of thousands to be marked at an examination. Now what are they worth? In the first place, it is clear that neither answer is to the point: both ignore the *life* of the cat. You, the examiner, may therefore have decided already to give them nought and dismiss them. But an essay is meant to show other things besides a clear understanding of the subject-matter—imagination and interest, for instance, as suggested in answer 1; or ability to express one's thoughts neatly and in balanced phrases, as in answer 2; even those despised handmaids of writing: punctuation, spelling, grammatical accuracy. The examiner's outlook on these several matters will affect his award of marks; he may be suspicious of answer 2, and consider that it is simply a piece learnt by heart and reproduced at a wrong place. In any case, the mark given will be *subjective*, that is, dependent partly on himself, and not just on the written answer: hence different

examiners will award quite different marks for the same essay. If the marks given by the readers of this paragraph were all collected, they would range, quite remarkably, from very high to very low.

The essay is the worst sufferer in this way, but other questions fare diversely also. Let us proceed.

English Language

(a) Make up a sentence containing the word "origin", so as to show its meaning.

Answers

1. He was a very original man; he was always doing something new.

2. What is the origin of that?

3. The Origin of Species is a book.

Notice once again that none of the answers carries out the instructions in the question. But do they just get o? You are trying to grade these candidates: do you consider the writer of 1 to be as bad as that of 3? Has 2 a glimpse of the truth, to justify, say 2 out of 10? Some examiners may sweep them all aside, others might assign varying marks.

(b) Write down the opposite of gay, begin, energetically.

Answers

1. Sorry, ended, lazy.

2. Miserably, commence, carelessly.

3. Not gay, continue, slow.

Every single word is wrong, yet have you, the examiner, decided that there is no merit whatever in any of the

answers? How are you going to grade the above? To make them all equal "no good" is easy, but gets us nowhere.

It might be thought that the arithmetic paper would be straightforward to correct, and it is indeed much easier. But resume your examiner's chair, and award fair marks to the following.

Arithmetic

Multiply 3 by 24, divide the result by 9, then add 16.

Answers

1. 24

2. $\frac{3 \times 24}{9} + 16 = 24$

3. $3 \times 24 = 72$

$72 \div 8 = 9$

$9 + 16 = 25$

4. $3 \times 24 = 81$

$81 \div 9 = 9$

$9 + 16 = 24$

You have dismissed number 4, as a sham attempt to cover a copied answer, but is it any worse than number 1? If not, does it get any marks, or the same as 1? How many is 1 to get? He may well have copied. And after all, number 2 is really just the same as 1, although it looks much more learned. Does it receive little or nothing? But surely it is written by someone with a flair for maths? And what do you do with 3, a very worthy soul who divided 72 by 9 to get 8 but unfortunately wrote the two numbers in the

wrong order; Quite obviously the answer deserves quite a lot of marks, but *how many*?

Now it may be thought that a few marks either way would not make a great deal of difference, provided the examiner gives marks somewhere in the middle for work that shows some merit. This is quite a false idea. For one thing, such a system would be likely to concentrate marks at, say, 0, 5, and 10 out of 10, so that the candidates would tend to be in three bunches, whereas what we need is a steady string. Furthermore, the large numbers taking the examination make it certain that there will be many ties, and at the border-line (a line that will be very much under discussion as this book proceeds) a difference of only 1 mark may look very serious indeed.

I have before me as I write the results of a Special Place examination held shortly before 1939. About 120 places were available in Grammar Schools.

Candidates on the list who came 99th to 103rd all had 136 marks.

13 candidates had 135 marks.

7 had 134.

10 had 133.

13 had 132.

Hence one name can appear nearly fifty places below another that has only four marks more. Reflect again on the answers above, and the manner in which those four marks may have been awarded, and remember that when the pass line was finally drawn, even 1 mark represented failure for (probably) ten candidates. The point to understand is not that the margin between success and failure was so

small (it always is, in any examination), but that such a large number of candidates clustered around the margin, and they must all have been given or refused marks according to the well-meant but fallible intentions of an examiner marking subjectively.

Two other factors contributed further unpredictable elements to the results. The first was that the number of candidates examined each year normally made it impossible for one person alone to mark all the papers. If different examiners correct the papers, marking subjectively, the final results are likely to be even more unreliable. Where teams of examiners are concerned, they meet and very carefully discuss a scheme; everything possible is done to enable them to act like machines, all producing similar results from similar materials. But the human element remains, and careful investigations have shown how widely the results can vary.

The other factor concerns the tricky question of an age allowance. Over the past half-century the calendar has strengthened its grip on our educational system to such an extent that a child's birth date can definitely have a serious effect on his academic chances, especially if he is not particularly bright. In days gone by the age range of candidates taking the "scholarship" varied from district to district more than they do now, and grave injustices were caused to those moving from one area to another. The natural, and desirable, trend in the direction of uniformity meant that authorities worked their way towards the 11-12 range which was common to most existing schemes. The figure of 11, supplemented by the almost totemic but largely

meaningless "plus", acquired a magic significance. In fact, it eventually found its way into the 1944 Act, though tucked away, as it were, in a sort of postscript.

There are still authorities whose age range is greater than the one year eleven to twelve, but many confine their entry strictly to those born on one of a given 365 days. Even where a greater age range is used, it is quite inflexibly applied. This means that parents may have done their child a disservice, even before he is born, if they are misguided enough to have his birthday fall during the months of Autumn. In a few areas, the worst month is August. Summer babies, on the other hand, will have a better chance throughout their school career. The fundamental cause is the choice of one particular date, usually September 1; to represent the dividing line between one scholastic year and the next. The children who took the secondary schools allocation examinations in 1952 were, nearly everywhere, those whose eleventh birthday fell on any date from September 1; 1951, to August 31, 1952. Consider the life-history of the child born in September 1940. He probably started school in an infants' class in September 1945; after only two years there, he moved to a primary school in September 1947. In March 1952 he took the great examination, after over $4\frac{1}{2}$ years in the primary school (which runs only a four-year course), and he was already over 12 when he began his secondary school career. He may have spent three years in the infants' school instead of two: if so, supposing he was a bright child, he wasted time there instead of wasting it by spending five years in the primary school. He was ready for the Grammar School in 1951, but he

could not go there because he was a day or two younger than the child in the next desk, who was born in August. Even now, his troubles are not over. Throughout his Grammar School career, he is "old", and if he is a Sixth-former his military service will have to be deferred and his University course will start late. If he happens to want to be a schoolmaster, he will take up his first post just after his twenty-fifth birthday.

Consider the child born in April 1941. He joined the infants' school in April 1946, spent two years and a term there, and moved to the junior school in September 1948. This is a year later than the September boy described above, yet we find them together in the examination room in 1952, and together in the Grammar School in September of that year. Thereafter, only six months younger, the second boy is virtually a year ahead of the other all the time.

But the fate of the September boy is not yet fully told.

It is time to return to the question of the age allowance in the Special Place examination. Having deliberately refused to let the boy take the examination in the previous year, the authority now proceeds to use the following argument: This child is old—why, he is almost twelve! Naturally he should be expected to know more than some of these poor children who are barely eleven. We must handicap him, so that the examination is fair all round. We will give away free marks to the younger ones, and the younger they are, the more we will give them, but of course this September child shall definitely not have any.

In the examination from which I quoted above, the free marks awarded to the younger candidates were approxi-

mately, though not exactly, one for each month by which the child was less than twelve. The August child was given twelve marks before he had put pen to paper. Is there a sound basis for this?

There is no doubt that at the age at which this examination is taken, a pupil matures rapidly, and a few months can make a real difference to his score in a test. Plenty of statistical evidence shows that average scores increase with the average age of the candidates. But average scores are tricky things, of which later chapters will have more to say, and in addition to easily measured data we should bear in mind certain facts which are not so easily converted to arithmetical use. One of these facts is that the really bright child will burst the top of any marking scale even if he is at the bottom of the age range. He needs no free marks (though he gets them), and in practice the age allowance does not function in order to save him from injustice; he is safely through in any case. What actually happens is that the age allowance tends to bolster up the case of the younger border-liners. Now the case of the plodder who is a good deal younger than the rest of his class, without really having the intellect or the ability to rise to their level, is a sad one. In his qualifying examination he had an allowance for being young, but no such allowance accompanies him throughout the rest of his school career. If he could only be considered for a Grammar School by being given free marks, he might well find life too hard for him there.

On the other hand, it is fair to point to the conclusions reached in an investigation by Mr. G. V. Pape,¹ formerly

¹ G. V. Pape, 'Accident of Birth', *Education*, Vol. 108, No. 2808, 1956, p. 735.

head teacher of a primary school, and now a Local Authority inspector. From the details published in November 1956 we learn, first, that in Mr. Pape's school, consistently over a period of years, the Autumn child had a much better chance of reaching and remaining in the "A" stream; and secondly, that during a two-year period Autumn children from his school gained more Grammar School places than the Spring ones, and the Spring ones more than those born in Summer.

This is a striking result which, if shown to be generally true, must lead to some re-thinking of the problem of age allowances and of the date of entry into secondary schools. It is possible, however, that the case will look different when the relative importance of the two points of Mr. Pape's investigation is further assessed, namely:

1. That *at the age of seven*, the Autumn child tends to get into the "A" stream, and
2. That *at the age of eleven*, the Autumn child tends to get into the Grammar School more easily than others. It is unfortunate that in the report so far made, the second of these points is based on the experience of only two years, because theoretical considerations, unbacked by figures, suggest that the first point is likely to be true and the second one doubtful.

Whatever the policy of the Authority in a particular area, the Autumn child almost certainly spends longer in the infants' school than the other children; whether he is there for two years or three, they all move up to the primary school in September. At this stage in a school career, the acquisition of knowledge and abilities is rapid, and more time means more progress; it is only natural that the Autumn

children, having started first, should be ahead of the others, and a school which streams its pupils at seven can expect to find proportionately more of them in the "A" stream.

By the time they are preparing to take the secondary schools selection tests, the Autumn children have been at school for some six years, the Summer ones five to five and a half; it is reasonable to doubt if this difference, especially when countered by an age allowance in the examination, can make it normal for Autumn children to have a better chance than the others. If it is indeed so, the inference is that the "A" stream, throughout the school, is taught better or more intensively; and to be in it at all is itself an advantage. Perhaps wider investigations would produce different figures. For instance, at one single Grammar School, the entry for eight successive years has included the following numbers of Autumn and Summer children:

	Born Sept.-Dec.	Born May-Aug.
1949	28	27
1950	34	30
1951	31	35
1952	37	28
1953	29	33
1954	35	28
1955	32	37
1956	29	34
Totals	255	252

Clearly, Mr. Pape's second conclusion is not borne out in this instance; but even if it were, the problem would remain, and could not be further controlled by the method of age allowances.

There is no solution to this, if the intake into the secondary schools is to occur only once a year. To extend the range beyond one year, but not to two years, is unfair to a proportion of children, because some would have two chances of sitting, and others only one, according to birthdays. Nevertheless, it is probably along these lines that the best compromise can be found. The most satisfactory arrangement, adopted by a few authorities, would spread the age from, say, ten years eight months to twelve years. But I would stress an important proviso which is not current practice anywhere, so far as I know. There should not be an inflated age allowance for these extra-young children; preferably they should receive no age allowance at all. Statistics can here be defied; only those who can compete with much older candidates *on equal terms* can be safely sent into the strenuous life of a Grammar School.

So during the 1930s the Special Place examination, sometimes called the County Minor examination, came in for criticism as not being wholly reliable. It was for the express purpose of testing this reliability that a great investigation was made by the International Institute Examination Enquiry, and the results for England were prepared by the late Sir Philip Hartog and Dr. E. C. Rhodes in a book called *The Marks of Examiners*, a summary of which was published separately under the title of *An Examination of Examinations*.¹ The Special Place examination was only one part of their field of work, but it was subjected to careful study. Only a close reading of the whole experiment can do justice to the care with which it was carried out, and nothing

¹ Published by Macmillan (first edn., 1935).

but its conclusions will be stated here. They make clear beyond reasonable doubt that chance plays a big part in the awarding of marks. Assessing identical work, different examiners gave marks so widely at variance with each other's that some candidates came near the top of the list in one man's judgment, and near the bottom in another's, with nearly every gradation between. As would be expected, this result was most visible in the case of the English essay, and less in the arithmetic, but it appeared throughout. The chief difficulty lay in the subjective nature of the marking, and it was clear that if a satisfactory set of questions could be produced whose marking did not vary with the bias of the examiner, one big problem would vanish.

Definite proposals for such an examination already existed, and commanded authority. Their leading exponent was the late Dr. P. B. Ballard, who in *The New Examiner*,¹ first published in 1924, discussed the objective type of examination paper. Working from the premise that the essay type of answer was useless, he advocated questions that could be marked as quite unambiguously right or wrong. Various methods were devised to this end, and the following examples are but a few of them.

History

Instead of a question like "What were the causes of the English Civil War?", the pupil had to fill up the blanks in some such scheme as this:

"Charles I tried to rule without paying heed to the demands of . . . , and was consequently obliged to resort

¹ University of London Press Ltd.

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to unpopular ways of raising War finally came soon after he had tried to . . . some members of Parliament."

Or again, there was the type of question wherein nothing had to be done but underline a correct answer, chosen from several. For instance:

"The 1851 Exhibition was chiefly the idea of:

Wellington, Peel, the Prince Consort, Gladstone, Cobden."

English

To test vocabulary and association of ideas, the odd-man-out type of question became popular, e.g.:

"Cross out the word which does not belong here: grocer, baker, butcher, dentist, confectioner."

To test comprehension, jumbled words had to be re-arranged into sentences:

come who hardest those usually top work.

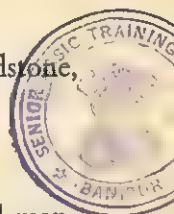
Thinking ability was tested by devising little problems like:

"George is on the left of Jim, and Jim is on the left of John. Who is in the middle?"

Arithmetic

A very large number of elementary *single* processes took the place of long connected problems, and the emphasis all the time was on mental agility.

Meanwhile critics were directing their attention to other aspects of the Special Place examination. One objection



was that the examination was more concerned with testing what a child *knew*, than with trying to find out what he might be capable of *learning*. This prognostic aspect of the selection examination has taken on ever greater importance in recent educational thought, and has led to a certain amount of controversy. Those who fight against the kind of examination that tests a child to see what he knows have laudable intentions. They want to avoid the worst forms of cramming in the primary schools, and they know that such a test can handicap the children who have had less competent teaching, or have been taught in difficult circumstances (e.g. in a small all-age school). But there is danger in pressing too far to the other extreme. The attempt to devise an examination which would ignore what has been done and only forecast future possibilities rests on an unpractical foundation. The simple fact is that life is hard on those who *could* do well but unfortunately do not. Every year throws up the children of high I.Q. who know little and make small progress simply because a Grammar School course starts with certain reasonable assumptions about what its pupils should know on arrival.

Another objection to the examination was that it gave an advantage to the child who could write quickly. The mechanical process of using a pen affects different children in varying degrees; some can write easily and produce an answer of good length in a short time, while others, quite able and intelligent, write rather laboriously, and fail to do themselves justice in the essay type of examination.

All efforts were thus bent on eliminating the unreliable essay type of questions. The Ballard *New Examiner* type

offered the most likely reforms. The intention behind the *New Examiner* was not to find a substitute for the "scholarship", but to improve internal examinations; hence they still tested what should have been learnt by pupils well taught. However, as soon as people decided that the general idea was a good one, the search was intensified for an examination that would discover innate capacity without having to test acquired knowledge. How successful that search has been, the following chapters will try to decide.

Intelligence Tests

THE first quarter of this century saw a spectacular growth of intelligence testing, and the idea was taken up enthusiastically by professionals and amateurs of every degree of ability. The early burst of zeal has passed, and has been replaced by a more thoughtfully controlled attitude, and the reason for this is, fundamentally, the knowledge that these tests are not quite intelligence tests after all. Indeed, the argument is now largely concerned with deciding what intelligence is; the measurement of it may follow the definition, but this is not to be taken for granted.

The Consultative Committee of the Board of Education, reporting in 1924, claimed that the idea of intelligence testing came from an Englishman, Sir Francis Galton, as long ago as 1883, and was developed by Americans during the next decade. The underlying principle is the belief that mental characteristics can be measured by laboratory technique just as accurately and scientifically as physical ones, if only the right method of measurement can be discovered and applied. The advantages of discovering such a technique are many, and various countries, almost by accident, came to concentrate on the problem for different reasons. The most lasting influence was exerted by France and by America. The latter used the newly devised tests for trying to find the right job for the adolescent American, whereas

France sought to solve a very different problem. And it was Binet's work that first pointed the way to the possibility of measuring the intelligence of the very young.

Binet had no such grandiose plan when, in the early years of this century, he tackled the particular difficulty that faced him. His intention was to find some simple way of determining which children ought to be educated in schools for the sub-normal, and over a period of many years he slowly developed a brilliant scheme, which culminated shortly before the First World War. Because its essence remains at the core of all intelligence tests today, it is worth looking at a summary of the scheme.

What Binet did, alone and in collaboration later with a colleague named Simon, was to devise a whole series of little problems to put to young children at a personal interview, beginning with elementary ones like "What is your name?", and continuing through "Name these colours", "Repeat the number 8596", to more advanced questions involving discrimination between lengths and weights, and making demands on reasoning powers. These little problems were carefully chosen, with the help of years of experience, to represent what normal children came gradually to learn, and the finished scheme represented a measuring scale, inasmuch as the more a child could answer the more mentally mature he proved himself to be; if he could answer all the questions up to those assigned as normal for age 5, but only half of those belonging to age 6, he was described as having a mental age of $5\frac{1}{2}$. If his real age in years was 8, he was obviously very retarded, and the Binet-Simon scale gave clear-cut figures for the amount of

retardation. In fact, if the mental age is expressed as a percentage of the real age, the intelligence quotient is born. In the case quoted, the I.Q. would be $\frac{5\frac{1}{2}}{8} \times 100$, or nearly 69.

It is customary, with the tests generally used now, to regard the child with an I.Q. below 70 as needing to be educated in a special school. Similarly, a child of 8 who could answer all the questions regarded as the normal province of an eleven-year-old (but who failed to answer any of those of the twelve-year-old) would have an I.Q. of $\frac{11}{8} \times 100$, or 137½. This is high, and the owner of such an I.Q. should do well in the top stream of a Grammar School.

It is important to be clear about the precise nature of this intelligence testing. The principle is that of comparing the achievement of an *individual* with the achievement of a whole range of his age-group: and since figures are easier to deal with than words, this comparison is expressed by saying that a child who achieves exactly what average children of his age achieve has an I.Q. of 100, the one who achieves what is normal to an older child has an I.Q. above 100, and the one who cannot achieve the normal for his age has an I.Q. below 100.

It will at once be quite clear that a great deal hinges on what is regarded as normal for any given age. Binet worked empirically, and it took him years to satisfy himself that his scale was a good one. Modern testing uses a rather simpler scientific method. It first invents the questions, and then, before letting them loose on education authorities, sets them to a large number of children of a particular age-range. These

children are chosen to be as representative as possible of that age-group in the country as a whole, and their scores provide numerical indications of the I.Q. as measured by the questions. The marks are arranged so as to cluster round 100, and when this has been properly done the test is said to be standardised, and can be set to other individuals or groups in the expectation that I.Q.s can be assessed by it, according to whether the scores are above or below the norm fixed by the original group.

The principle of sampling is fundamental to modern statistics, and nowhere more notably so than in the world of educational theory. Learned books of a highly mathematical kind have now been published, dealing very largely with the problem of deciding how reliable any given sample may be, and how to control sampling so as to eliminate as far as possible the errors that are inherent in it. The basic idea is easily understood, even if those hostile to the Gallup Poll deride it. It is this: if we can find out some truth about a comparatively small number of people, then we can fairly assume the same truth about a very much larger number, *provided we choose the small number properly*. It is important that the small group should be closely representative of the larger one about which we hope to generalise; in the case of a Gallup Poll it must be a truly random sample. Establishing a norm for an I.Q. is not difficult, because, by definition, we are trying to discover a general truth about the *whole* of the child-population of a given age, and the experimenters are concerned only with ensuring that the sample is as large as can be conveniently administered, and as varied as possible—geographically, socially,

and, so far as that is known at the time, intellectually.

If the various groups making up the sample all produce about the same result when doing the test—that is, if their scores all cluster reasonably neatly round 100 (or any other score: for the figure 100 can finally be produced by simple arithmetic once the test is standardised)—the test can then be said to be reasonably reliable. It can be used generally for assessing the I.Q. of anyone of the age concerned.

Since Binet's death in 1911, a big change has taken place. The original tests of intelligence were given by expert examiners, and to individuals, and each individual might occupy literally hours of the tester's time. Such tests still exist, but their use is exceptional now; they have been largely superseded by group tests, which need no experts either to administer or to mark them. The function of the professional is to invent the questions and to get them standardised.

The marking of the tests has just been mentioned, for the first time, and the point made that anyone can do it, even without training in intelligence testing. This pre-supposes two things, which are of no small importance in the system. One is that the questions shall be answerable very briefly, and the other is that they must be framed so that no alternative answers can be allowed. The net result, then, is that a set of correct answers can be prepared, so short that they can be very rapidly assimilated by the marker, and so definite that any variation from them whatsoever is to be counted wrong.

There are a number of methods of achieving these ends. One is to use questions to which there really is only one answer, such as, What is 9 multiplied by 8? Another is to

give the child the correct answer mixed with a number of wrong ones, and he has then only to indicate in some stated way (e.g. by underlining) which is the right one. Yet another is to leave a blank in a sentence, and instruct the candidate to fill it with one word.

All these ways have the same object, that of ensuring that the *marking* shall be as nearly foolproof as possible. Since modern ideas often demand mass testing, the emphasis has shifted from the careful study of the individual child to the statistical treatment of large numbers; and large numbers can be examined only if amateur labour can cope with the marking. It is not to be denied that the framers of the questions are rather severely handicapped because their answers must be easily marked. The nature of the marking has for some time been held, in various quarters, to be a virtue in itself, in order that its reliability should be unchallengeable.

We have jumped from Binet to modern times in order to show the fundamental change from individual to group testing, but the period between has also seen changes in the content of the tests. The intention has always been that the I.Q. ought to be an index of what a child was born with, not what he has learnt since; psychologists have studied intelligence as far as they are able, and very few contest the assumption (which, however, cannot be regarded as proved) that the above two kinds of ability, an inborn one and an acquired one, really exist in everyone, and that the inborn one is not going to be affected by the outward circumstances of a person's environment or education. From that starting-point, the experts have proceeded to try to dis-

cover more about the inborn ability (it is this which is called "intelligence"), and they have analysed it by splitting it up into what they think to be its component parts. Most of them agree that intelligence can be regarded as consisting of at least two components, which one of the early investigators, Spearman, called *g* and *s*. The *g*, or general factor, decided the over-all level of intelligence; the *s*, or specific factor, or factors, represented definite separate abilities. It is unlikely that many regard Spearman's arguments as adequate today. Some thinkers postulate a special factor that can assess sizes, others a special factor that can assess shapes, a special factor for practical ability, special factors for various senses of touch, recognition of movement, and others. These subdivisions strike the layman as a little unreal, and while they *may* be leading us towards the truth, it is always well to bear in mind that some psychologists doubt if they exist at all.

The pursuit of these factors, which is largely a mathematical exercise, has produced changes in the make-up of intelligence tests which have been designed to reveal more detailed information than that implied by "general intelligence". They look for the particular causes that might explain differences in test scores, such as special interests, aptitudes, or skills, and thence they set out to measure specific abilities, usually of a practical kind that would suggest a probable advantage in a certain form of education, e.g. in a technical school. If a youngster can be shown to have traits which a good engineer needs, then it is arguable that he should be educated with an engineering bias. So the emphasis has shifted.

Many experts are suggesting that children should not just be graded in order of "brightness" (i.e. according to their "general" intelligence), but should be categorised according to their various "specific" abilities. The tests would then be used, not as a competitive entry system for squeezing children into Grammar Schools, but as a device for discovering which sort of education would, in fact, most suit them. This was the background to the famous ability-and-aptitude phrase in the 1944 Act, but one difficulty in assigning a child to an education perfectly suited to his abilities is that the Act was premature in deciding that these could be identified. While there has been no lack of theories, we still have no agreed measuring system.

We turn meanwhile to another question: what is the *purpose* of the examination? The idea a quarter of a century ago, as related in Chapter II, was that it should discover who constituted the top layer of the elementary schools, and in those days they sought to discover this layer by asking questions about what had been taught in such schools. It was assumed that all schools would have taught their pupils the basic skills of English and Arithmetic, and that the more they had learnt, the easier they would find the examination. But gradually the testing of knowledge took a second place to the prognosis of future potential. Thought and research on mental testing developed steadily along the lines that it was possible to measure a child's "inborn" intelligence as something separate from later environmental experience and learning. The I.Q. was regarded ideally as a figure independent of school work done, and since it seemed easy to find a child's I.Q., we could in a single process be

sure of identifying the Grammar School types and at the same time free the primary schools from the evils of cramming.

As a matter of fact, the theoretical argument that the simple knowledge of an I.Q. was sufficient to place a child in a Grammar School (or to keep him out of one) was hardly put to practical test, because before the old methods could be superseded, a number of doubts were thrown on the proposed new ones. Much of the opposition came from disappointed parents.

Now the Education Officer used to be in a strong position when seeing parents, because he had a list of all the candidates and of the marks they had gained. He had only to produce it and say: "There are 500 candidates and 100 places; your child came 315th." The parent rarely felt in a position to do anything more. But at a time when examinations are under a cloud, the parent may come armed with information about their unreliability, and make out a good case for supposing that injustice had been done. He might even have been right, and the next move by the Education Officer needed careful thought. Some consistently refused to make exceptions of hard cases, on the ground that *some* injustice is unfortunately inevitable, and that the floodgates must not be opened even a little. Others dealt informally and directly with a case where injustice appeared likely; others again sent the case back for further review. They all of them longed for the chance to demonstrate conclusively that the examination result was impeccable, but until they succeeded, they must perforce do their best to satisfy and convince the anxious parent of the rightness of their system.

The arrival of the I.Q. gave some hope that it would be impossible for the parent to rebel. He could no longer complain that Miss X had always had a grudge against his child and refused to teach him properly, or that a bout of measles at age 6 had thrown the youngster out of gear for ever after. He could now be told that the child had an I.Q. of 97, and that this made a Grammar School education unsuitable.

Why has this desirable idea not materialised? There are a number of reasons, some of which are dealt with in detail in Chapter VI. Briefly, they are these: the tests are still not wholly reliable; they do not measure intelligence alone, which cannot perhaps be measured at all; and they do not try to assess character, which may be relevant to the selection procedure.

The intelligence test is highly verbal. That is to say, in its very essence, it demands the understanding and manipulation of words, and quite apart from any other consideration of the content of the tests, this fact alone disposes of the theory that we are here discovering inborn as distinct from acquired characteristics. A child brought up in illiterate surroundings, or one who (through illness perhaps) has hardly attended school, is unlikely to achieve a high I.Q., however bright. The questions are framed in the language of school, and they are based on the assumption that the child has done conventional school work. Reference to the details in Chapter IV will be sufficient to demonstrate this.

Not only must the child have a clear grasp of word-relationships: he must be able to read with facility. Not every child, even today, is thoroughly taught how to read. A number of misfortunes may rob him of the chance of

that extra personal tuition which some awkward learners need at the critical moment: he may be a part (and an awkward part) of an all-age group; he may be in a class of 45 where a few indisciplined children leave the teacher little time for anything but police-work; he may miss a vital stage; or be just frightened during some difficult phase in his relationship with the teacher. Any of these things may retard his reading to the extent that he takes small interest in books.

The intelligence test demands of the examinee that he should read rapidly, because the instructions must be clearly grasped before he can proceed, but equally it is necessary that he should proceed with the minimum of delay from one part of the examination to the next. There is a reason for this; the test may well be too long for him to finish unless he is very intelligent, but he must get as much of it done as he can.

The questions chosen are the ones that the average child of that age can answer, and in order to identify those superior to the average, some additional questions must be set, for two reasons: first, there is the likelihood that, even though all the questions are within the capacity of the average child, the no-better-than-average ones will stumble over some of them; and secondly, it may be supposed that the more intelligent think, write, and generally react faster, and will therefore answer more of them.

The inference is that the I.Q. represents, not intelligence only, but an ability to read, think, and write quickly about situations couched in rather bookish, or at least school language. This is not to condemn it as a Grammar School-

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qualifying test, for which it may serve better than its predecessors, but it has disappointed its early sponsors in not doing efficiently enough the job it was confidently expected to do. Nevertheless, it has been greatly developed and improved, and its use has become widespread, almost universal. Unless something quite new is devised, we shall probably go on using this as the best tool of its kind, even if comprehensive schools are established. We need therefore to be very clear about what sort of tool it is, and what we can hope to do profitably with it.



Composing an Intelligence Test

DURING the course of this chapter we shall assume the mantle of experts and devise an intelligence test. This is not a difficult task to begin, though we cannot properly finish it. Profiting by the experience of others, we know, or have a good idea, what sort of questions we shall set: they will be like those that have been successfully used before. We could, of course, decide to be pioneers and invent completely new kinds of questions, but we should not help this book by so doing, because we should not have the slightest idea whether our questions would be of any use for their supposed purpose. So we stick to well-worn I.Q. paths, and frame a test. By doing so, slowly and in detail, we can assess something of its likely value, and perhaps see a few pitfalls as well. It should be clear before we start that, for the reasons given in Chapter III, our test will not be ready for use when we have composed it. Indeed, it never will be, because we have no facilities for standardising it.

We know, from experience, that our questions are to call certain mental processes into play, and we jot down some headings:

Alphabet	Codes
Analogies	Generalisations
Arrangements	Opposites
Comprehension	

Remembering that we need a large number of questions, we shall not be satisfied with just one under each heading, though we do not know yet exactly what number we do want. On the other hand, the paper must not keep to the same kind of question for too long at a time, or it will become monotonous to the examinee, so we shall judiciously distribute our questions over the whole paper when we have enough.

Alphabet

The use of the alphabet as the basis of so many questions is due to the simple fact that it is known, and can therefore be referred to without puzzling the candidates. Even so, the test paper is quite likely to present the whole alphabet for the child to look at when working the problems, because at this point we wish to test only one thing at a time, and if the child had to visualise mentally what he was doing instead of seeing it in front of him, two different difficulties would become confused.

We concoct some questions.

1. Which would be the seventh letter if D and E were removed from the alphabet?

2. Which letter would be fourth after M if the alphabet were written in reverse order?

The actual sight of the alphabet on the paper makes this easy: it just needs a little intelligence to count backwards.

3. If the letters of the word "curtain" were put in alphabetical order, which would be the middle letter?

This is a little harder, but no great trouble if the alphabet is visible.

4. Which letter comes most often in the word "extraordinary"?

5. Which letter in the word "porter" does not come in the word "troops"?

Here the letter "s" seems prominent, but we ought to expect a child of fair intelligence to answer what he is asked, and not something different.

We can now move on to questions of the type that need explanatory examples. These examples are an important part of the tests, and they help to explain the fact (discussed in Chapter VI) that practice in doing the tests brings about improved scores; for the questions are, for the most part, limited in variety, and a child who has worked a number of papers is ready for them.

In the following questions add letters before and after those given so as to fit in with them.

Example: G I K M

These letters are chosen because each comes two later in the alphabet than the one before. So at the beginning you would write E (which is two letters before G), and at the end you would write O (which is two letters after M).

Now do these:

6. P Q R S

7. TS QP NM

8. EG IK MO

We have put in some rather complicated ones here, and when we finally arrange the test, we shall take care to have them towards the end. We must not discourage or slow down the child in the early stages.

Analogies

We come now to questions of a type that are often quoted by opponents of these tests. It is normal for some worthy at a public meeting to get up and say to an audience: "Now answer this one—laugh is to pleasure as weep is to blank. You can't? And yet a poor ten-year-old is supposed to find it easy." In fact, of course, if children have no experience of this kind of question, they can be puzzled until they have digested the example, but a little familiarity soon removes the unfriendliness from the printed page in front of them. The reasoning needed to answer the questions seems to be clearly associated with intelligence, and these tests regularly use them.

We begin by giving the child an example.

"Book is to read as water is to"

You *read* a book: what do you do with water? You *drink* it. So you should write the word "drink" in the space at the end. Now do these:

9. Cricket is to bat as soccer is to
10. Elbow is to wrist as knee is to

It is customary today not to present these problems so baldly. Rather than expect the candidates to produce the right answer from the recesses of the brain (where, under examination stress, it may be inaccessible), examiners offer a number of answers, including the right one for inspection. This is in keeping with the principle already enunciated, of testing, as far as possible, only one thing at a time. In this case, we simply wish to see if the child can recognise similarities in the things set before him: we are not testing

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his memory also. Furthermore, this helps the marker, because by limiting the number of possible answers we can ensure (if we are careful) that only one can be right.

We therefore rewrite the above on these lines:

Example

Book is to read as water is to

lake tap bubble drink flow

You *read* a book; you *drink* water. So the word "drink" should be underlined. Now underline the word that fits in the following:

9. Cricket is to bat as soccer is to

player ball goalkeeper referee whistle

10. Elbow is to wrist as knee is to

leg foot body toe ankle

We add some more.

11. Laugh is to pleasure as weep is to

sorrow cry tears eye punish

This really tests brainpower. But it is within the capacity of children of this age who can grasp the ideas in verbs and abstract nouns without studying formal grammar.

There is no need to confine our questions so closely.

12. B is to F as February is to

March April May June July

13. $\frac{1}{2}$ is to 2 as 3 is to 5 7 9 11 12

It may be objected that with this system a child may hit on the answer by pure guesswork. The experts are quite aware of this, and they are not alarmed. The laws of chance are very well known, and in a long paper, the marks

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earned by guesswork can be roughly computed and allowed for. Even so, some test designers take other precautions, such as *deducting* marks for wrong (or guessed) answers, instead of just ignoring them. This is done when it is not possible to provide enough alternatives.

To make things a little more complicated, we now provide alternative answers for *both* parts of the analogy.

Example

Page is to book as flower tree violet
is to pansy forest blue

A book is collection of pages, and a forest is a collection of trees. So you should underline *tree* and *forest*.

14. Coal is to mine as water coke soap
is to oak wash well

15. Time is to clock as instruction west direction
is to compass watch wrist

We have, as usual, put some false ideas into their minds, because they ought, if intelligent, to reject them. Meanwhile, we cast our net still wider.

16. AC is to BD as JL NP RT
is to MO QS KM

17. 8 a.m. is to 3 p.m. as 11 a.m. 4 a.m. 1 p.m.
is to 8 p.m. 3 a.m. 11 p.m.

The reduction of each set of alternatives to only three does not make guessing any easier. In these last examples, the odds are eight to one against a correct guessed answer.

Arrangements

For younger children a much-used form of problem consists in disorganising the words of a sentence, thus:

are we to when like eat we hungry

The words chosen have clear enough associations to make it readily possible to sort them into a sentence, and it is important to provide such key-words as "eat" and "hungry". It would, for instance, tax even an adult mind to sort out something like this:

is for you there word hard a if that think
though it can be made perfectly sensible.

For the eleven-year-old, the arranging demanded is not so much in the sequence of words as in some kind of sequence of magnitudes, which, however, tests reasoning rather than arithmetic.

Example

Look at these words, and see if you can think of the right order in which to arrange them. Then underline the words that would come first and last in this new order.

Line page letter word book

The best order would be

Letter word line page book

so you should underline like this:

Line page letter word book

Children write at very different speeds, but they presumably underline at a pretty constant pace; so we do not ask them to write, but only to indicate.

We prepare some more.

18. Dog lion elephant mouse monkey

(Similarities in size in the middle of the order do not matter; "elephant" and "mouse" should come to mind without further mental arrangement, and the sizes of the dog and monkey are irrelevant.)

19. Golf tennis billiards draughts cricket

(Here the problem is to find what sizes are being compared; it looked at first like the sizes of the *ball* used, but "draughts" spoiled that one. It may take a moment for even the clever one to spot that it is the size of the playing "area" that matters.)

20. 384 483 348 843 834

21. Often rarely occasionally never sometimes
(Quite a vocabulary test, but the "outside" words are well known to all.)

22. Enormous big small minute largish

(Here the "outside" words are less ordinary.)

Comprehension

One mark of intelligence is the ability to understand and obey instructions, even if a bit unusual.

23. If 32 is more than 23 put an X in this space
If not, put a Y.

24. Write A in the space if 8 and 7 make 14 . . . but if they make 15 write B.

25. If fathers are older than sons write P in the space
unless X comes before W in the alphabet, in which case write Q.

This kind of question is less popular than it used to be, perhaps because it is so unreal. We compose other, more

sensible, questions, for although a child puts up with a good deal of odd stuff at school, there is a limit to what he will take seriously.

26. Which one of these has legs but not wings and is not an insect?

Sparrow snake butterfly dog earwig.

27. Today is Friday, January 9th. My birthday comes this month on a Tuesday, but not this week or next, and not on January 27th. When is it?

28. In my purse I find a half-crown, some sixpences, and some threepenny pieces. Altogether there is 4s. 3d. How many sixpences and threepenny pieces have I? .

.... sixpences threepenny pieces.

Codes

The use of codes is a specialised form of reasoning, and, if applied to figures, becomes a sort of embryo algebra.

We do not waste effort and paper by writing out a complete code, but just some necessary fragments, thus:

29. If XARQ stands for PEAT,

QAR stands for hat tea pat tap pea

30. If BZCYDE stands for PLANET,

BDECZ stands for plane plant penal petal panel

(We can use the same "code" for more than one question thereon, if we wish.)

Using figures:

31. If 183742 stands for PLIANT,

1734 stands for nail pail tail pint pain

And turning the figures into algebra:

If A stands for 7, B stands for 5, C stands for 6, and D

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stands for 3, work out the answers to the sums that these stand for:

32. $A + C - D$

33. $B \times C \div D$

Now make up similar sums, so as to get the following answers (for instance, if the answer had to be 15, you could write $A + B + D$, or $B \times D$):

34. 13

35. 26

We must be sure to set only those answers which are going to give rise to a single solution.

Generalisations

This is another form of association of ideas. An example will make the principle clear to the child, and we can then compose some more.

Example

Look at these words.

Pig lion cat animal elephant
Pigs, lions, cats, and elephants are all animals, and so you should underline the word animal.

Now try to decide which word in the following questions is the general word that describes all the others.

36. Pansy flower dandelion rose daisy

37. Tool hammer pliers saw file

38. Chair table stool bed furniture

We move to slightly more abstract notions.

39. Vase necklace ornament tassel fringe

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40. Honesty truthfulness courage virtue patience

The test consists essentially in identifying the genus, given a number of species, and many variations on it are possible; hitherto we have named the genus, but we need not make life quite so easy.

Example

Look at these words.

Parsnip carrot potato raspberry swede tree
chrysanthemum apple

Parsnips, carrots, and potatoes are all vegetables. The only vegetable on the right-hand side is *swede*, so this should be underlined.

Now do these:

41. Saucer dish cup stew plate milk cat
tea

42. Soon then now presently slow quickly
obey cleverly

43. Iron lead tin metal chalk clay copper
coal

(This one is quite difficult, especially with the deliberate insertion of the word "metal", which is, of course, irrelevant.)

We again pass on to less concrete material.

44. CB NM RQ TU XY JK BC FE

45. 134 356 689 314 136 853 578 698

Yet another method of getting the candidate to work out the genus mentally, being given a number of species, is to introduce an "odd-man-out" into the list.

Example

Foot mile inch pound chain yard

All these are measurements of length except "pound", which should therefore be underlined.

46. January month week hour year day

47. Serge coat twill tweed linen canvas

48. AE CG EJ GK IM KO

The problem can be made yet more searching (but, by experience, still quite suitable for the eleven-year-old) by providing a rather confusing mixture of words, only two of which are species of the same genus.

Example

In the following group, two of the things are of the same sort, and are different from all the others.

Penny money bank shilling wallet

All these have to do with money, but only two are actually the same sort of things, *penny* and *shilling*, which are both coins. They should be underlined.

We, the composers, need to be on our guard now, because we may slip in words which, viewed differently by other people, have an association that we did not intend. In the example quoted, for instance, it might vaguely be claimed that both a bank and a wallet *contain* money; we may reject this as unreasonable, but it is the children who decide in the end, and if our questions were submitted for standardisation, we should be wide awake to see if large numbers did in fact misfire over this question. This would be a warning to us to reform or remove it.

This one, for instance, would not be very helpful.

Book magazine newspaper comic volume
Perhaps in framing this we are thinking of *book* and *volume* as being more lengthy and in some way bound. The child could bracket magazine and comic as being juvenile reading matter, and the other three (in his judgment) for adults only. Or he may even have seen the frequent occurrence of the word *volume* on the covers of magazines, and regard these two words as specially connected. We have to try to make our questions unambiguous without being glaringly obvious.

49. Pen pencil ruler rubber pencilcase

50. Snow cold cloud thunder rain

51. DF EF GF HF FG

(This one is quite a teaser, too: the last combination FG looks a real "odd-man-out", yet is part of the answer, with EF).

Opposites

This type of test is not designed to measure breadth of vocabulary, although those whose vocabulary is extensive are most likely to do it well. The idea is to spot the child who has a *clear* rather than a *profound* understanding.

Example

Underline the word in the group which is most nearly opposite in meaning to the first word.

Laugh shout grin anger weep pout

Here, the word *weep* means the opposite of laugh, and should be underlined. Now do these:

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52. Release free imprison lose stay go

53. above heaven alone low under bottom

As a harder variation, we do not specify the word whose opposite is to be found, but leave the writer to underline the *two* words.

Example

Find two words in the following list that are nearly opposite to each other in meaning, and underline them.

bold clever interesting good dull

The two opposites are *interesting* and *dull*.

(It may be observed, in passing, that the odds against reaching the correct answer by pure guesswork are 12 to 1.)

54. important learned ignorant teacher
hardworking

55. find send bind come lose

56. discord agree quarrel discuss debate

We have now produced a mixed bag of questions. There are not enough yet, and we shall devise others on the lines of those already in. The next step is to arrange the questions in some sort of order of difficulty, because an examinee acquires confidence if the early questions are well within his capacity. At the same time we want to keep the questions in groups as in the previous pages, so that one example will suffice for several questions that resemble it. We take, therefore, the easier part of each group as a start, and then, later in the test, the harder parts, with their accompanying examples.

There remains a very important point, which cannot yet

be finally settled. It is of the essence of the marking that the more a candidate does, the more chance he has of being credited with a high I.Q. Quantity plays its part as well as quality. If he does every question and gets half of them wrong, he will have the same I.Q. as the boy who answers half the questions and gets them all right, even though there may be reasons for looking on the latter boy as probably more dependable. This is discussed further in Chapter VI. The more time the writer has, the more chance he has of winning additional marks—as long as there are still questions left for him to answer. Ideally, the time allowed should be just enough to enable the brightest boy to finish; longer time will narrow the gap between him and the others, while he can do nothing about it. If we make the paper so enormously long that no one comes in sight of finishing it, it may discourage many of the candidates; they will turn fainthearted as they realise that the clock is completely beating them.

How long, then, are we to allow? Children have not the staying power of older people in the matter of examinations, and a half to three-quarters of an hour is as long as they are likely to be able to manage. We tentatively say 35 minutes, leaving the final verdict to the children who help to get the tests standardised.

If we really wanted our test to be of practical use, we should now have the difficult job of trying to persuade some professional organisation or some local education authority to have it standardised. This would involve setting the paper to very large numbers of children of eleven. In practice, this means a large number of school classes,

representing different types of school. The paper would have to be done in exactly the conditions we had in mind when setting the paper, including the limit of 35 minutes, and when it was completed we should have to examine the answers carefully. In particular, we should look for the following:

1. Questions which almost everyone had answered wrongly. If the answers showed that the question could be satisfactorily amended, we should do that; otherwise, it must be scrapped.

2. Questions to which there was clearly more than one correct answer; we had evidently overlooked some possibility. The ambiguity must be removed.

3. Whole groups of questions answered badly. If this happened, we should suspect that our instructions or examples were not clear, and try to improve them.

4. The number of candidates who completely finished the paper. If it was large, we should either reduce the time or lengthen the paper; the distribution of the marks would tell us which. We will suppose that eventually we are satisfied with the scores. How shall we turn them into an I.Q.?

We find the mark of the average child. By definition, the "average" child has an I.Q. of 100, so we revise all the figures in order to relate them mathematically to the one we have chosen to represent 100. The actual method involves more than simple proportion, but with one fixed point, we can construct a scale for assigning an I.Q. to any score. We now need to decide on an age allowance policy, and we shall undoubtedly give help to the younger children.

Our task is then complete. Our paper is ready to be used on thousands of other children.

So far as scientific method can do it, our test seems to be reliable; that is to say, any particular set of answers will lead mathematically, whoever marks them, to an I.Q. which is unambiguously expressed as a figure, and those who should know assure us that the figure so derived really does represent to a very high degree the important quality we are trying to find. It is open to anyone to say that what is measured is not intelligence at all. By saying so, he will not have altered the value of the test itself by one fraction; he will be merely arguing over words. The research scientist is extremely interested in that aspect of the matter, but so far as we are concerned, the test is meant to find who are the brightest children of a given group, and it seems to do this efficiently even if opinions differ about exactly what it is that is being measured.

CHAPTER V

A.Q. and E.Q.

THE old Scholarship and Special Place examinations had tested English and Arithmetic, and attainment in these two skills is so fundamental to our educational system that there was no need to quarrel with this choice. Hence those who admired the new type of test soon started thinking further. The usefulness of the intelligence test, and hence its popularity, derived from its twin virtues: it measured a quality which potential Grammar School children needed in a high degree, and it was easy to mark. This second virtue was as attractive as the first to a generation grown sceptical of more orthodox marking, and it led to the widespread use of questions for testing more specific knowledge. By going through the processes already described, they could test the *attainment* of children of eleven. The questions have now acquired a formal pattern, and we will watch a test-designer at work on an arithmetic test, trying to see why he includes particular questions, expressed in a particular way. The reader is already familiar with the general principles on which these papers are made up.

The examiner wants to know first if the child has mastered the four rules, and so he starts with "raw" arithmetic, calling for no thinking ability other than mechanical manipulation of number:

1. Add together 14, 62, and 23.

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Or he may make it plainer and easier still:

1. Add 14

62

23

—

This is so easy that not even “carrying over” is called for, from units to tens. The next will offer that slight extra problem:

2. Add 34

16

83

58

—

A mixed bunch may be included:

3. Add 137

8

43

20

6

881

—

And so with subtraction:

Subtract:

4. 758

435

—

5. 1316

579

—

6. 48372

894

—

And so on:

Multiply:

7. 487

$$\begin{array}{r} 3 \\ \hline \end{array}$$

$$\begin{array}{r} \hline \end{array}$$

8. 368

$$\begin{array}{r} 57 \\ \hline \end{array}$$

$$\begin{array}{r} \hline \end{array}$$

9. Divide 3785 by 5

Then the same processes are applied to our rather involved systems of money, weights, and measures:

Add:

10. £ s. d.

13 3 7

$$\begin{array}{r} 4 \quad 8 \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} \hline \end{array}$$

11. lb. oz.

6 11

12

$$\begin{array}{r} 4 \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} \hline \end{array}$$

12. tons cwt. st.

4 16 3

$$\begin{array}{r} 1 \quad 10 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \hline \end{array}$$

13. hr. min.

5 48

$$\begin{array}{r} 3 \quad 27 \\ \hline \end{array}$$

$$\begin{array}{r} \hline \end{array}$$

14. gal. qt. pt.

5 2 1

$$\begin{array}{r} 3 \quad 1 \\ \hline \end{array}$$

$$\begin{array}{r} \hline \end{array}$$

15. ml. fur. ch.

8 3 8

$$\begin{array}{r} 7 \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} \hline \end{array}$$

The examiner then takes similar items and makes problems of subtraction, multiplication, and division. Probably nearly half the paper will consist of these absolutely straightforward tests of arithmetical ability—sufficient to eliminate the poor candidates but not to discriminate between the good ones. If the paper is to have about 100 questions, the 50 that have been prepared so far will be shuffled before appearing in their final version, so

as to prevent any one process from having too long a run. The shuffling will, of course, be arranged so as to leave the easy questions at the beginning.

The rest of the paper will not expect the child to *know* much more, but will call for a little thinking, if the necessary arithmetic is to be done. Instead of saying: Multiply 8 by 12, an intermediate thinking stage is brought in. For instance:

How many pence are there in 8 shillings?

Instead of seeing: Divide 120 by 30, the candidate must think what is involved in this:

A motorist travels at 30 miles an hour. How many hours will it take him to do 120 miles?

No longer will the instruction appear: Subtract 2s. 6d. from 8s. 11d., but something of this sort:

A shopkeeper sells an article for 8s. 11d., and so makes 2s. 6d. profit. What did it cost him?

Even the simple addition can be disguised, so that some thinking is needed before the problem is reduced to naked arithmetic:

A dozen boys travelled in one bus, and 3 more than this in another. How many travelled altogether in the two buses?

The difficulty of questions of this kind can be increased steadily without going beyond the intellectual capacity of a good eleven-year-old.

If I buy 3 lb. of meat at 2s. 9d. a lb., what change shall I have from a ten-shilling note?

What is the total cost of 4 bars of chocolate at $5\frac{1}{2}d.$, a 9s. 4d. gramophone record, and $\frac{1}{2}$ lb. of tea at 4s. 8d. a lb.?

A town has 5 schools, each with 20 classrooms. How many pupils would there be if all the schools had 30 pupils in each classroom?

If I cut a 12-yard roll of wallpaper into 8-ft. lengths, how long will be the piece left over?

I was five minutes late for the 1.47 train, which left punctually. How long did I have to wait for the 2.35?

How many hours are there in a fortnight?

It is a sign of the times that less actual knowledge is expected than was the case twenty years ago. The above questions deal only with elementary processes, combined with a little reasoning. It is probable, however, that our test-setter will go just a little further, and will expect some ability to use fractions:

Add $\frac{1}{2}$, $\frac{3}{4}$, $2\frac{1}{8}$.

Take $5\frac{3}{4}$ from $7\frac{1}{8}$.

The use of such fractions enables him to set other simple problems:

How much is $\frac{5}{8}$ of £1?

What fraction of 2 lb. is 12 oz.?

That is probably all. Most of the chapter headings from the arithmetic books of our youth will be ignored, on the quite tenable assumption that mathematical ability is rooted and grounded in basic arithmetic, and can be developed *after* the age of eleven.

With some fifty additional questions (of the problem type) thus collected, and once more shuffled, the test is ready for its first try-out. Its subsequent career will resemble that of the test of Chapter IV, with the single difference

that the final figure derived will be called, not an I.Q., but an A.Q., or arithmetic quotient. This is intended to represent "general" arithmetical ability. It quite unashamedly reflects acquired knowledge—it is a test of what has been taught—and therein it differs from the theoretical I.Q., though it claims to have a prognostic value as well.

The E.Q.

To devise a similar test for English is not so easy. The equivalent of "Add 16 to 31", with its simple, unambiguous answer, needs careful preparation; and much that *ought* to find a place in an English examination must perforce be left out for the very reason that single right-or-wrong answers are essential.

However, there is material in plenty for the construction of worth-while tests, and the man devising one will probably produce questions involving comprehension, vocabulary, spelling, grammar, and pronunciation. This represents, after all, quite a large sector of a child's English studies, and if it omits the expression of a sequence of connected thoughts, it is simply because the examination would cease to be reliable, in the technical sense, if they were included.

Comprehension

To test comprehension, a passage is invented, or chosen from an existing book, and questions are then devised to see if the child has understood both the general sense and the meaning of individual words.

This might be the passage, and preliminary instructions would tell the examinee to read it carefully.

One afternoon at the end of December, George decided to build a big Meccano model. He knew that he would be alone because his mother was going to visit her brother, and his sister Mary would not be in till teatime. He had an ingenious idea for constructing a working crane, and he was just preparing to do it when his neighbour John called through the window: "Hi, you're late for the football match we are supposed to be playing." George had been so engrossed in his hobby that all thought of the match had vanished from his mind.

It will be remembered from the tests which we have composed, that the answers must be easily marked; this instantly rules out questions like:

Express in other words: "engrossed in his hobby". For good or ill, the candidate cannot be allowed to express anything. We therefore provide him with the right answer, mix it with some wrong ones, and leave him merely to identify the one we demand. It is no use regretting this; it is inevitable. The simplest method is to have him underline the suitable answer, or mark it with a cross. After explaining this, the test would then put questions of this sort:

1. Why was George not at school?

Mary wanted him to play with her.

He was looking after the house.

He wanted to build a Meccano model.

It was during the holidays.

He was too late.

2. Where was his mother going?

To Mary's father.

To George's brother.

To Mary's brother.

To George's father.

To George's uncle.

3. "Ingenious" means

Clever: simple: silly: latest: naughty.

4. How many different people are mentioned in the piece? 1 2 3 4 5 6

5. What made George late for the match?

He disliked football.

The clock had stopped.

He had forgotten about it.

John wasn't a good friend.

He wanted to be alone.

Later in the test, other such passages will appear, with rather more difficult vocabulary and questions. For instance:

We had travelled all day, but had not reached our destination before night fell. We should probably have avoided this inconvenience if we had not followed the advice of a peasant who showed us the way. We had been walking two hours when we discovered that he had misdirected us, and that we had lengthened our journey considerably. At last we arrived at a village and found a ramshackle inn, where, according to tradition, Prince George had slept.

1. Look at the following statements. Put a tick against those that are true, and a cross against those that are false:

The travellers arrived at the village just before dusk.

A peasant had saved them two hours.

They might not have gone so far if someone else had shown them the way.

The accommodation was not very modern.

A prince had stayed at the inn a day or two before.

2. "Inconvenience" means

disaster journey peasant trouble walking

3. "Destination" means

an inn

the place to which one is going

a building in a village

a railway station

a resting place

Vocabulary

A wide vocabulary is usually a sign of wide interests, and particularly of wide reading. At the same time it is important to know if a child has *accurately* assimilated the words he has met. It is not enough that words should have vague associations with the context in which they have occurred. The questions which test vocabulary knowledge are straightforward enough, and in some ways resemble those in old-fashioned examinations. The chief difference, as usual, lies in the presentation of the correct answer among a series of wrong ones, so that the child simply underlines what he thinks is the synonym of the given word.

1. *Frank*

generous honest good beloved silly

2. *Deceive*

cheat hate spy betray love

(It is not unusual to put in one completely different word

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among the wrong answers, for by standing out it attracts those of lower intelligence, and so makes it more likely that they will score badly.)

Many test-designers make this kind of question less frightening, though not necessarily easier, by putting the word in a sentence.

3. It was a *reliable* clock.

useful large dependable alarum pendulum

4. The street was *surprisingly* well lit.

unexpectedly very brilliantly certainly surely

5. *Rural* occupations are the quietest ones.

reading childish indoor country interesting

Another way of varying the process while achieving the same result, is to incorporate the alternatives in a sentence. The required word is, as always, to be underlined.

6. Because of a lack of response, the appeal was successful abandoned answered made joyful

7. Inside the room it was so

clear stifling temperature pleasant dusty
that some women fainted.

8. The speech was remarkable for its brevity; for the speaker was one whose speeches were usually interesting gay long witty bright

Use can be made, too, of simple definitions:

9. A person who suffers death for his beliefs is a doctor martyr coward invalid liar

10. A thing which is no longer in use is silly chariot worn out obsolete velocipede

Then there are idiomatic sayings and proverbs, which

have appeared in these examinations. The test takes space, because the alternative answers are necessarily long, but no one will invent these tests by economising on paper. The child is told to indicate which of the suggestions best gives the meaning of the saying provided.

To live on the fat of the land means

- (A) To be a good farmer
- (B) To enjoy every luxury
- (C) To make the people work hard
- (D) To be an excellent cook
- (E) To live an open-air life.

New brooms sweep clean means

- (A) You must have fresh brooms to get a place tidy
- (B) You can't do things by halves
- (C) Newly appointed officials make many changes.
- (D) Dirt accumulates if you leave it
- (E) Take care of the pence; the pounds will take care of themselves.

Spelling

In the testing of spelling, there are objections to the normal scheme, such as this:

neccesary neccessary nesecary, etc.

for once we have actually seen a wrong spelling, there is the danger that we may become mentally paralysed about it. Now the examination is not intended to confuse the child; it is a test of memory. In other questions in the English and intelligence tests, the child can often fit the answers to the questions, and find definite reasons for accepting or rejecting. The context will not help him with his spelling,

however, and to put faulty spelling in front of him may even be unfair.

Of course, it is not essential to examine spelling, but it has its value, for the good speller has a good visual memory, and is probably a wide reader, suited to an academic type of education. If the child is to write nothing original, it may be wondered how we can test his spelling. One way of doing it is to ask a question to which there can be only one answer, namely, the word whose spelling is to be tested. Such questions are not easily come by.

What does a smoker put in his pipe?

The top of a room, opposite the floor.

A word meaning "essential".

It is clear that ambiguities will arise. The first question may well produce the desired answer "tobacco"; the second will probably produce "ceiling", but is awkwardly phrased; the third may yield half a dozen equally correct answers, and the examiner's "necessary" be ousted by "required", "vital", or even "needed". No examiner, of course, would include this third question, which is inserted to explain the problem.

A method commonly adopted offers the child part of the answer, and by providing a context enables him to know what word he is meant to be completing. He fills in the missing letters.

1. The road had no bends: it was quite str——t.
2. The boy rode to school on a b—c—cle.
3. He failed to ach—ve his objective.
4. The hotels were full; he could not get any
a—om—dation.

It must be admitted that, even so, the required word may be more obvious to the man setting the question than to the child answering it, so that the exercise risks testing two things at once. The mark may be lost, not from failure to spell, but from a misunderstanding of what is wanted. It may even be doubted whether spelling tests can usefully be set, but most of the experts are in favour of them.

Another spelling problem with which the primary school child is expected to cope concerns the use of capital letters—an arbitrary matter, like most spelling of English, but one at which an ordinary educated person seems expected to be competent. Here the objection to the visible wrong answer is less strong, for it looks so very wrong in the eyes of those who know what is right.

George Smith george smith george Smith George smith
Birmingham is in england birmingham is in england
birmingham is in England Birmingham is in England

Then there is the problem of the apostrophe to indicate possession. It is purely a printer's convention, that has no effect on pronunciation and little on understanding, but it must apparently be used aright if we are to call ourselves educated. Here children must insert apostrophes or choose between right and wrong answers.

The childrens book's were big, etc.

Johns' friends house, etc.

Elementary Grammar

It is many years since a primary school child was expected to deal with such ideas as third person singular, present subjunctive passive. The ability to parse the verb is looked on

as belonging to the dead methods of the past. The point is debatable; wisely directed, an intelligent youngster develops an enthusiasm for grammatical theory.

However, formal grammar finds no place in the modern English examination for the child of eleven. What is expected of him is that he will be able to use his own language reasonably well, without needing to grasp the underlying principles. He should recognise the displeasing sound of "Her won't come", or, "We eats them apples". The task of the examination composer thus looks straightforward enough. He has only to produce sentences of this type, and offer the correct answer as an alternative to various offending words. He will not in fact include "We eats them apples", which has *two* solecisms, though he may well deal with each of the two words in separate questions.

1. He wished he had
went gone goed have gone of gone
2. He ain't got none
He haven't got none
He hasn't got none
He hasn't any
He hasn't none
3. Give me (they them that those them there)
books.

However, the problem setter has a less easy task than seemed likely, because he finds, when he settles down to devising questions, that for many of them he cannot really find four or five alternatives—more often only one wrong one has the least chance of being chosen and no others can be included.

1. He hit (her she) on the head
2. That is (to too) big
3. They wanted (their there) clothes.

The objection to these is that it is too easy to put the right answer by chance, and the examination then ceases to be *reliable*.

Others, again, of the commonest sort, are not susceptible of this treatment at all.

That is the man what I saw.

Asked to rewrite in full, the candidate could probably do it; but to insert a blank among the words in brackets:

(who whom that what)

would be far too confusing, though of all the possibilities the blank is perhaps the neatest. The scope is thus limited, but within its limits this kind of question grades the examinees well.

Pronunciation

In practice this becomes a test of vocabulary and spelling as well—useful, therefore, but like most attempts to measure two different things at once, a little difficult to assess. An example will make the difficulty clearer. The candidate is expected to underline the word which rhymes with the given word:

Trough (through dough cough bough rough)
More is involved here than just pronunciation. The child must *know* the word, or he cannot hope to guess how it is sounded; he must also know the words offered as alternatives. He must know the mysteries of spelling—through is like threw, bough sounds like cow—and only after using

all this knowledge is he ready to underline the correct answer. The test is useful, all the same, and examples are not hard to come by.

piece (priest pies freeze peas crease)

yacht (cot packed eight mashed banked).

A pitfall which has trapped experienced examiners is that of local pronunciation. One that has been set to thousands of children goes something like this:

poor (door four sore boor floor).

The setter of that question came from north of the Border or from a bygone age. So acceptable is the pronunciation that rhymes with "door" that B.B.C. news-readers can be heard producing it any day. Besides, these tests are not intended for such subtle gradations of vowel discrimination.

Such might be the substance of examinations to find an A.Q. or an E.Q. When standardised (that is, provided with a marking scheme that distributes the marks around the average according to a well-known mathematical arrangement), they are available for testing large groups of children in different areas.

It is important not to be misled by the expressions A.Q. and E.Q. because they sound more impressive than they really are. By false analogy with "I.Q.", they may give the idea that they represent a kind of inherent maximum ability, an abstract "power-to-do-English" or "arithmetic", that altogether overrates them.

Some people thought, two or three decades ago, that this might indeed be their function, but few retained such a simple belief for long. The point was interestingly revived in

November 1956, when the National Foundation for Educational Research published evidence to show that a child's achievement in a particular subject was often better than his I.Q. would lead us to expect.

The resulting animated discussion departed widely from the educationally retarded, or subnormal, child with whom the Foundation was concerned in their report, and debated the general question whether, and why, a child could apparently exceed his own ability. Although the eleven-plus tests were not the real topics of the debate, the tendency of the arguments showed clearly enough that it is wrong to think of the I.Q. as settling a limit of achievement in all tests done by a child, and that we ought not to be surprised if a child of I.Q. 100 has an E.Q. of 110, or an A.Q. of 120. Many things make children more industrious in some directions than others, and we cannot indeed measure all the influences that cause him to "take to" one subject. If he does well in an examination in that subject, it may be because the teacher and teaching attract him, and because the examination itself is restricted to a small area of knowledge.

The "quotient" in the expressions A.Q. and E.Q. must not lead us to think of these as very special figures. They are marks derived from an examination, and not, in essence, mysterious measurements of some corner of the mind. They are better than the old-fashioned arithmetic and English papers because they are much more carefully constructed, and much more reliably marked. Yet criticisms arise, and there is substance in them.

Doubts and Criticisms

THE main reason for the almost universal adoption of the types of test outlined in Chapters III to V is that they are eminently satisfactory for the administrator. This is not said in any derogatory way, for the administrator does not worship them for the wrong reasons, but he adds to their virtues reasons of his own for liking them. He was not quite at ease when stating that George had 62 out of 100 for arithmetic; he feels in a much more advantageous position when he can prove that George's I.Q. is 93.

In general terms, he is right. And the burden of proof is on those who claim any better method of finding our Grammar School pupils. This method is scientific; it really stands for something; it is painstakingly organised. Yet figures can lie, and this type of examination, like others, can mislead.

The rock on which it is built is its reliability. This is its chief justification for having superseded the earlier examinations with their subjective marking. Is our faith in its reliability fully justified?

It must at once be admitted that these new examinations have not been tested by such a widespread, thorough enquiry as produced *An Examination of Examinations*. Hence there is no powerful body that has established the evidence which may show that intelligence tests and their like are not all that they claim to be. The evidence comes

from individuals. Nevertheless, it is increasing, and has now become substantial enough to be analysed.

The most publicised criticisms concern the scores achieved by children at a second attempt, and the consequent study of the effect of coaching. By January 1952, when *The Times Educational Supplement* published two articles by Professor P. E. Vernon, of the London University Institute of Education, many investigations had pointed to the possibility that I.Q. scores could be improved. What set the investigators working was the observed fact that nearly always, when *two* such tests are taken by the same group, the second one produces a higher average score. The conclusion is irresistible that the practice gained in doing the first makes the second easier to tackle.

Perhaps this seems trifling—and indeed obvious—to the reader. The inferences to be drawn from it are far from trifling. It will be recalled that the I.Q. should represent inborn ability, and, as such, to be an absolute mark, and though we do not expect it to be perfect, we are alarmed if we find it behaving like any other examination. Is it, after all, reflecting the preliminary training given to some candidates, but not others? If this could be proved, general faith in these tests would be weakened, though it would not necessarily follow that such tests should be abandoned.

The preliminary training just mentioned may take two forms, one an intensification of the other. It may consist in letting the child work through papers of the type that he will have to do, so as to acclimatise him. Such a procedure is known as giving the child *practice*. More systematically, the child may be carefully taught how to do the paper.

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The instructions are explained, the answers discussed, similar questions invented and answered, dodges devised, speedy methods directed. Such a procedure produces better results still in the final test, and is known as *coaching*. It may be done by a private individual for a single child, or by a school-teacher for a whole class.

What Professor Vernon did was to produce definite figures suggesting exactly *how much* improvement could be effected by practice and coaching respectively. His experiments led him to think that practice could produce, on the average, up to 10 points improvement, whereas coaching appeared to show an increase of 14 points. This figure has since been modified to 11 points.

One other interesting and important conclusion had already been reached by others, and is established beyond doubt. What takes much of the sting out of the fear that this test is just as bad as its predecessors is the fact that there is a limit to the improvement that can be thus artificially induced, and it is reached surprisingly quickly. The numbers have varied a little in different investigations, but about five practice papers, or about five hours of coaching, seem enough to bring a child to a degree of efficiency that he cannot improve upon. This led Professor Vernon to recommend that *all* eleven-year-olds should be coached as a normal part of their primary school work. It would not take much time, and it would eliminate unfairness.

Other reports produced rather different figures. Dr. A. F. Watts, of the National Foundation for Educational Research, gives reasons for thinking the figure of 14 too high, and himself thinks that 9 is about the average gain. But 9

DOUBTS AND CRITICISMS

is not something to be ignored. It can promote a border-liner far up into the safe zone. And if (as is normal) *two* tests are taken, the resulting gain can be really disadvantageous to the uncoached and unpractised. Hence this suggestion of coaching for all, but here again the experts are at variance with each other. One group considers that sufficient practice can do almost as much as intensive coaching, so that the schools need to do nothing but serve up an occasional intelligence test—useful, in any case, for a record card. Others, including Dr. Watts, are shy of universal coaching on the grounds that its quality can vary so much; a good teacher and an enthusiastic class will do vastly more than an incompetent one with dull children. And these variables are just the ones we are anxious *not* to have as an influence on the examination.

Thus the problem remains. Many head teachers have decided to meet it by putting "intelligence" on the time table in the primary school, and even if that is not what the idealists hoped for, it is hardly necessary to remind the reader that the earlier kind of examination suffered far more from the effects of coaching.

We now examine the assertion that all markers would produce the same result if correcting the same set of answers. As has been said, from this aspect the test has not been as fully investigated as the old-type examinations were. Small-scale investigations have shown a very high correlation between markers, but the conditions of the investigations have been either not stated, or not typical of the humdrum (even hurly-burly) marking of the thousands of papers worked each year. Consequently, we lack direct

information; and second-hand information must be treated cautiously, but sometimes cannot be ignored.

In the first place (and this has been publicly established) even the "right or wrong" kind of answer cannot be marked completely reliably by different markers. Only those who are familiar with children's written work realise the vagueness and sheer awkwardness of their attempts even to do such a simple thing as underline or tick. Suppose they are underlining the correct answers in a case like this:

The task was (to too) difficult.
Triumphantly one candidate realises that "to" is incorrect; out it goes:

The task was (~~to~~ too) difficult.
What does the marker do? Remember that he is merely a mechanism for converting answers into an I.Q. He is *not* intended to think for himself. Actually, in this instance, his instructions may tell him what to do; he has probably been told to mark it right.

But the child may have recovered himself, and now frantically tries to undo his mistake:

The task was (~~to~~ too) difficult.
Here, there seems small doubt about his intentions, and the marker will surely award the point; nevertheless, he has had to do so on his own initiative, subjectively. He *might* even decide that, because the child was plainly told to do nothing except underline the correct answer, the point is forfeited.

The child may recover himself nervously, and, intending to indicate the *other* word as the correct one, may foolishly delete that as well:

The task was (~~to~~ ~~too~~) difficult.

which of course is worthless, but what of the situation when he tries to put it all right again?

The task was (~~to~~ ~~too~~) difficult.

The purpose of the test is to see what he knows, not to convict him of nervousness. You may have your own opinion about the worth of this latest answer, and the marker may have his; it would be wearisome, even though instructive, to look at the scores of possible answers which, as the child intended them, are right, but which may receive varying fates under the pencils of different markers.

The A.Q. provides like difficulties. Many figures are quite simply badly written, and only the marker's judgment, or hardheartedness, or sympathy, can decide the matter. It is no solution to say that anything that cannot be read is wrong. There are so many answers that can be read after a fashion, and if all were marked wrong, unless the marker were one hundred per cent certain, some really good children (but bad writers) would appear with a low A.Q. This applies equally to the English examination, where, for instance, missing letters to be inserted may be "a" or "u" in "co rse".

Not all poorly written answers are attempts to dodge.

Other matters affect the reliability also. One of these may cause a few eyebrows to be raised, but it comes from constant and first-hand experience. Even if every script is clearly written, and every answer unambiguous, and even if the marker is highly intelligent and well-meaning, there is a near certainty, statistically speaking, that some of the marking will be faulty.

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The marker is presented with a list of the correct answers, and is asked simply to tick those which the candidate has answered correctly. There may be a hundred answers, and dozens, scores, or hundreds of scripts—tens of thousands of answers altogether. There is no need to point out that as quickly as possible the marker dispenses with his set of answers and works from memory, and it is equally obvious that, however conscientious he is, he will mark rapidly. It might be thought that after the first few papers he is so familiar with the answers that he cannot fail to notice the wrong ones, but this ignores the fact that he will be confused by the many different wrong ones that crop up for the same questions; and occasionally one particular wrong answer comes very often for one particular question.

Suppose this is the set of correct answers for one part of an arithmetic paper:

$\pounds 2\ 4s.\ 6\frac{1}{2}d.$

3788

5 hr. 36 min. 1 sec.

17

18 cwt. 3 qr.

4 men

31 times

$3\frac{1}{4}$

Try for yourself the correction of the following sets of answers:

$\pounds 2\ 4s.\ 6\frac{1}{2}d.$

3788

5 hr. 37 min. 1 sec.

$\pounds 2\ 4s.\ 6\frac{1}{2}d.$

3878

5 hr. 37 min. 1 sec.

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18	18
17 cwt. 3 qr.	18 cwt. 3 qr.
4 men	3 men
34	31
$3\frac{1}{4}$	$3\frac{1}{4}$
$\pounds 2$ 4s. 6d.	$\pounds 2$ 4s. $6\frac{1}{2}$ d.
3788	3887
5 hr. 36 min. 1 sec.	5 hr. 37 min. 1 sec.
17	18
17 cwt. 3 qr.	18 cwt. 3 qr.
3 men	3 men
32	31
$3\frac{1}{8}$	$4\frac{1}{4}$

As a real marker, of course, you would not see these four columns of answers simultaneously, and there would be many others between. After a mere four copies you are probably confused between the various wrong answers and the set of right ones. It is a counsel of perfection to say that *every* answer must be compared *every* time with the correct version, and after the fourteenth, or fortieth, the tiring brain is less able to remember clearly, but unwilling to work more slowly; sometimes a wrong answer becomes fixed in the mind as a right one, and literally scores of papers may thereafter be wrongly marked before the truth dawns again. And when the answers have been marked, all the little ticks must be added, and the total inserted at the bottom of the page; and then all the separate page totals must be added to make one grand total; this must then be

compared with an elaborate table (in small figures) which converts the mark into an I.Q. according to the age allowance due to the individual. It is all necessary; it is all simple; but there is a lot of it, and it cannot be too strongly stressed that these papers are marked by human beings and not by machines. A few points wrongly gained or lost make a big difference to an I.Q., and this may well be happening undetected because the overall picture could look satisfactory, and yet contain many marking errors that considerably affected individual cases.

In any case, the markers are not all dependable. It is difficult for an authority to find the right people to mark thousands of papers. Some use a very small body of paid professionals from their own staffs—probably the best method; some pay part-time outsiders; some employ school-teachers, both secondary and primary, for whom again it is an additional burden, to be done at times when the brain perhaps is not at its brightest—and often this additional work is unpaid. More extraordinary examples of recruiting markers have been heard of. One school got members of its Sixth Form to mark several papers each, and while they may have been intellectually the most fit of all, they yet lacked a right sense of responsibility. The moral is surely clear that double or triple checking is vital if this all-important examination is to be reliably marked.

Another indication of reliability is that children of similar ability should produce the same numerical result in this type of test. And as we look at the factors involved, it soon becomes clear that the likelihood of this happening is reduced in a number of ways.

Children may be of similar ability in a general way and on a long-term view, but, as has often been pointed out, they vary remarkably from day to day, and an examination candidate may simply be off form on the great day. This is one reason (apart from other doubts about reliability) why many authorities make their children work more than one intelligence test in the selection procedure. However, it is not only the child's personal variability that can affect examination performance. Outside factors also may do so in surprising ways.

A boy coming home one day from his examination, announced that he had by no means finished it, and said that this was of no consequence because the man in charge had told them how to set about it. "Don't worry about reaching the end," he had said, "just start at the beginning and think carefully about each answer. There is no need to hurry." The man in charge was kind-hearted, well-intentioned, and quite wrong. To begin with, he was exceeding his instructions, for he was plainly told by the examination-setter what to tell the children before the test began. If this examination is to mean exactly the same thing whoever does it and wherever he is, it is of the utmost importance that the conditions be identical as far as is humanly possible. A scientifically devised test must be applied in a deliberately scientific way. Apart from this, the instruction to work painstakingly through the tests does the candidate a disservice, for this is not the best way to get a high I.Q. Indeed, one of the tricks that coaching can teach the child is that certain questions should be avoided because they need a disproportionate amount of time, and it is important, if

not to reach the very end, at least to do as many questions as possible.

The time element is vital in another way, and numerous second-hand reports lead to misgiving. The standardisation of the marking is firmly based on the assumption that every child has exactly the same time to do the tests. "Exactly" means what it says. A group with an extra minute over the school next door may earn a significantly higher I.Q. In that minute, perhaps half a dozen or even a dozen additional questions will be answered; and the marking scheme and age allowance may cause this to represent an even greater gain in I.Q. as compared with the group that is allowed exactly the right time and nothing more. And if a minute does this, even a few seconds can have important results. It is no exaggeration to say that these examinations must be rigorously conducted with stop-watches, if one area is to be compared with another.

Other differences between schools may unintentionally penalise some candidates. The mere fact of crowding can irritate those not used to it, and in any case it can lead to copying. Only superhuman invigilators (they surely do not exist) can prevent copying if papers are within readable distance of each other. It does not follow that the copier will improve his I.Q., but it does mean that, as compared with another child of his own ability elsewhere, he may achieve a "wrong" I.Q.

The personality of the invigilator can affect the result. If known to the candidate, he (or she) may happen to be unpopular with the child, whose alarm at the presence of the hostile eye can lead to faulty or slow answering. If

unknown to the candidate, the invigilator may yet seem cold and unhelpful. The child who has to sit at a school other than his own, may be bothered by his strange surroundings in other ways (such as the position of the toilet, as the N.U.T. and other reports have said), and anything which causes mental upset will lead to a false I.Q. There is a real psychological advantage in playing at home, and there is little doubt that gathering children together from various parts for their examination, gives the members of the home school a more confident start.

Those who over-praise the virtues of the new type of examination are being somewhat misled by results that come from statistical averages. But, as has already been seen, some of the problems do not appear to the statistician. Certain kinds of marking errors cancel out, while others escape detection. Examinees' personal fears are not numerically represented, nor can any account be taken of such variables as coaching. Yet even if all these difficulties were overcome, the carefully prepared figures of the investigators can still reveal only part of the truth we are looking for. The painstaking and valuable work done by numerous statisticians leads to results which can only represent general tendencies, not individual ones. They bring to the subject what Sir Winston Churchill has called the magic of averages, and while we can admire the genuine skill with which they conjure excellent and valid hypotheses out of masses of figures, still they cannot, and do not, claim to evaluate separate human beings. Their remarks are true of all candidates taken together, but of no one particular child. The reason lies in the simple fact that when one takes the

average of a very large number of figures, that average is virtually unaffected if one of the figures is made a little bigger or smaller. Similarly, if we work out the average I.Q.s of thousands of eleven-year-olds, we have reliable and detailed evidence of the performance of children of this age, but the evidence is unaltered if a few inaccurate I.Q.s are measured in the process.

Supposing now that the marking can be brought to complete perfection, is this examination valid? Does it direct children into a suitable secondary school? Less ideally expressed, does it send the right children to the Grammar School?

Those who stress the merits of the earlier kind of examination, point to the lack of these merits in the new kind. A much-repeated criticism of the new examination is that at no point, in either the intelligence or the English test, is the candidate required to express himself in a connected series of words: still less, of sentences. How is it possible, asks the critic, to say that a child is at a particular level of achievement in English, if we do not know whether he can use the language? He spends his time ticking, crossing out, or filling in letters like a crossword puzzle, and he may do these things quite effectively and still verge on illiteracy.

To this charge the examination pleads guilty. It does not find it easy to test the child's power to use the language. A question devised with this intention may lead to an answer which can only be subjectively marked, and if that happens the test cannot be standardised. Attempts to set essay-type questions at any stage of the selection process are doomed for this reason.

Now the "connected English" criticism is valid but not of any great weight. The Grammar School child needs to use language: more than others, he must be able to express in his own words what he thinks or what he has done. But a child can do these things because he is a naturally intelligent child, and because he is made to practise them in an intellectual atmosphere. If the Grammar School develops the ability, it seems unnecessary to demand that this ability be developed before the child even reaches the Grammar School. This is not a case of having a minimum of acquired information. The new type of examination finds the ablest children, and they are, or will be, as able to use their language effectively as those chosen by other methods.

Another criticism that must be met is this: Do these new tests promote the Smart Aleck, and depress the conscientious but slower worker? A high I.Q. comes from high-speed working, so, says the critic, the slick child wins here; not the stayer, but the bright, flashy kind that has nothing in him really. If two children have I.Q.s of 90 and 110, it is not because one is of higher intelligence, but because he can think faster.

These complaints have some substance, but we cannot know or measure how much, because, as is shown in Chapter VII, we have no accurate way of measuring traits of character: there is no reliable quotient of slickness or slapdashery. In the absence of fact, we must therefore form an opinion.

It can be said at once (though these particular critics appear to forget the fact) that a high I.Q. depends on something else besides speed of working, namely, accuracy. Answers

that are wrong add nothing whatever to the total score, although they may do so in the traditional type of examination. This obvious point destroys much of the force of the argument, for it is surely a feature of the rapid but shallow thinker that he is careless and makes silly mistakes. The child who does really well is the one who can work quickly and still get his answers right.

In fact, those who advance the "Smart Aleck" criticism usually overstate their case: they speak as if there were something objectionable in quick thinking, and thus they consider that the wrong children do well. There seems little need to fear that any but the really clever will be at the top, and wide experience confirms this. There does seem more reason for fear, however, when we look farther down, and consider, not the supposedly flashily brilliant, but the not-so-smart Alecks in the border-line area. For although it is unlikely that mere slickness can put its owner into the top ranks, it is more than likely that the less clever child with a flair for picking up new ideas quickly, may put his ticks and crosses in the right places while a more worthy soul is busy pondering. Perhaps neither should be in a Grammar School; but of the two the hard worker stands the better chance of developing his abilities there. To this extent, the objective tests may be offering a few people of the wrong sort to the Grammar Schools, but it must be equally admitted that no machinery exists for preventing this in essay-type examinations.

In short, the critics who hanker after a return to the old days are on weak ground. They can point to some faults in the new examinations, but they cannot show that the old

were really better; and both experience and common sense suggest that they are fighting for a lost cause.

Other critics offer something in place of what they condemn, and they are, in general, responsible people with ideas. They present the argument that there may be really clever children who do intelligence tests badly because they happen not to have a flair for word-manipulation. Word relationships, and subtle variations in the meaning of words, play a fundamental part in present tests; the question is, are there *non-verbal* (but intelligent) children whom these tests catch on the blind side?

Clearly, anyone wishing to weigh the evidence that might answer this question must consider what sort of high ability a child has, if it is not a verbal one. We know of people who have achieved greatness despite a lack of linguistic skill, and we are led to wonder whether there is a special sort of intelligence which makes a person brilliant in practical ways that do not involve words. A very simple example is the ability to draw. No doubt there are young artists whose technical ability is outstanding, but who would get a low I.Q., and if they are really dull in matters outside their particular artistic skill, an intellectual kind of secondary education is probably not the best for them. The argument runs that the child with a proved practical, as distinct from an intellectual, ability, ought to go to a technical school, where the general bias is towards practical work, and where the intellectual atmosphere is not so purely academic. There are sound reasons, even so, for supposing that the *clever* child should attend a Grammar School, but let the argument be accepted for now that children with a

strong practical ability should go to a technical school. Problems bristle, when we come to invent tests that will *show* practical ability.

If the reader will go over again in his mind the methods whereby intelligence tests were constructed, he must wonder what questions could be asked on, e.g. artistic ability, and how they can be standardised. It is hardly necessary to point out the unreliability inherent in such questions as: Draw a horse, or, design a rabbit hutch. The marking of the "answers" cannot be anything but subjective. The test-designer must therefore try other ways.

Many of the tests that have been invented are for individual application. It will be remembered that the standardised group tests grew out of the Binet-Simon ones, or versions of them, which were applied to each child separately. In the same way, practical ability can be assessed by giving individual children practical things to do—such as fitting shapes together to make other shapes, or finding a path through a maze. A whole battery of such tests can be used, provided that certain norms, or standards of comparison, can be discovered or assumed; but it is a long way from there to a standardised group test which can be applied to an entire age-group. Just as the group intelligence test had to sacrifice some items that figured in the individual test, and concentrate on a few well-tried successful written ones, so the non-verbal tests, when adapted for mass use, are restricted in their range. For the most part they consist of drawings of various shapes, and the candidates are instructed to analyse them by identifying likenesses and differences between them, by visualising re-alignments,

additions, subtractions, by creating new figures from them by (imagined) dissection, and so on. The paper is primarily an assorted series of geometrical shapes, and it is based on the possibility that a child with a particular kind of ability will deal easily with the problems arising from the shapes, and can thus be identified at an early age. Thus the general tendency is for the definitely "practical" *individual* test to yield to a "spatial" kind of examination which is easier to administer as a group test.

If this test did what was asked of it, it would give us our technical school pupils: in fact, we do not know yet whether it does so; in other words, whether it is valid. The first interim report of the National Foundation for Educational Research, on the allocation of primary school leavers to secondary schools, describes a painstaking investigation which led to inconclusive results, and no better results are available elsewhere. It is a large assumption to say that there is a whole class, or kind, of children who are very bright but cannot do well in tests of the I.Q. type. We can only justify the assumption by demonstrating that some with low I.Q.s are reliably and consistently discovered by other tests to have a high "Practical Ability Ratio" (so named by a leading designer of this kind of test, Dr. W. P. Alexander). The demonstration has not been made, though efforts continue.

It may indeed be doubted whether we *ought* to look for this practical ability, as a means of finding children for technical schools: and this is a suitable moment to digress briefly, and discuss the place of the Secondary Technical School, as it is, and as it might be. Those who are hopeful of identifying special abilities, as distinct from general

intelligence, are trying to predict technical ability at an early age. For them, the Grammar School is for one kind of brilliance, the Technical School for another, and it is a case of finding which should go to which. This notion is quite at variance with the actual practice of today, for it is now usual for the most brilliant to go to a Grammar School, and for the Technical School to receive the next best. It is therefore of importance to decide, while Technical Schools are still relatively few in comparison with other types of secondary school, what place they ought to occupy in the educational system. Such a decision can at present be only a matter of opinion, and it is to mould opinion that the experiments in measuring practical ability are made. The Interim Report of the National Foundation, already referred to, describes various tests of a practical and spatial kind that were investigated. The conclusion there reached, was that there must be some revision of the interpretation of the results, partly on grounds of common sense, partly to adapt the results to existing school accommodation. A point *not* stressed in the report, because it was not strictly relevant there, was that a large number of children with high I.Q.s have also high P.A.R.s (practical ability ratios), and though this can hardly surprise those who have spent years in teaching Grammar School pupils, it is of importance to theoretical discussion.

For it seems most unlikely, in the absence of positive evidence one way or the other, that the "bright" children and the "practical" ones are two different groups. The proportion of those with a *high* I.Q. who are also clever with their fingers, must surely be as great as it is at any other

level of intelligence. The idea that a "C" boy is necessarily "good at woodwork" was exploded years ago: indeed, "A" boys are proportionately better. In this case, to segregate the "practical" pupils would mean dividing up the highly intelligent, and sending some to Grammar Schools and some to Technical Schools, and we must ask what advantage this might have for the children concerned. By implication children with a high I.Q. are mentally equipped for an academic type of education—that is, they can probe and understand causes, systems, underlying principles, the general philosophy of knowledge. Of such are pure scientists made; through them we can expect our fruitful research to be done. Wherever they go at the age of eleven, they must have the chance to develop all their abilities fully; if they go to a Technical School, this must still be so. But then, how would the Technical School programme differ *for them* from that of a Grammar School? The bases of a broad academic training are the same, whatever the school: indeed, the Technical School always insists that during the earlier years of its course, its pupil has a general education, which does not become "technical" till later. As he grows older, the future scientist will be working steadily, and with increasing specialisation, towards University Entrance, which he will achieve at seventeen or eighteen. The staff, laboratories, and equipment of the Grammar School seem to be adequate for this purpose, or could be made adequate. Is it the intention that such work should be done at the technical school, that one particular part of the course of study for University candidates should be done at one school and the rest at another? There would seem to be

small justification for so illogical a procedure. Our scientists are being moulded in Grammar Schools, and there is no obvious need to move them.

Let it be clear that we are not here discussing the Technical Colleges, which do work of University standard. It is the Secondary Technical School that would appear to be in a vague and anomalous position. It really looks as if the idea that the technical school should take the second layer after the Grammar School has taken the top one may be more sound than a theoretical claim to intellectual equality. But then if this is so, there would hardly seem to be a need for the technical school at all; its function would be more appropriately carried out as one of various courses provided in secondary modern schools. Indeed, experiments being made (e.g. in Southampton) suggest that it is just in this variety of programme that can be provided by a whole "set" of secondary modern schools that one of our most promising future developments lies. An extension of the organisation to include the Grammar School as simply another such differentiated programme, is a more likely ultimate achievement of secondary school planning than the Comprehensive School.

If this assessment of the place of the technical schools is just, there is a less urgent need to attempt to diagnose "practical ability" at the age of eleven.

Attempts are often made to estimate the *validity* of the selection tests by comparing the pupils' performance at eleven with their examination results in the G.C.E. several years later. Now, a set of G.C.E. results will obviously not produce an identical order of merit compared with secon-

dary school entry tests, for too many factors may have influenced individuals during the years—illness, home life, late development. Analysis of many years' results does, however, reveal a remarkably *broad* resemblance. The top third of the original entry list produces an overwhelmingly greater number of good passes than the rest; the bottom third produces far more failures. This is true, not only of the G.C.E. as a whole, as compared with the entry tests as a whole, but also of G.C.E. Maths. as compared with the A.Q., and G.C.E. English as compared with the E.Q. This telling result occurs year by year.

Few things are more reassuring than the discovery that, although the order of merit may have been considerably shuffled after a time, the over-all picture is that subsequent achievement is in a general way well predicted at eleven. And this prediction works rather better with tests of the *New Examiner* type than with more normal school examinations. It is reasonable to think that we are accurately identifying the top layer of the primary schools at the age of eleven, and criticism can be directed only to the border zone. Indeed, the experts point out, rightly enough, that the number of failures in prediction to be laid to the charge of these tests looks very small against the bulk of successes. But the experts necessarily see this problem rather differently from the parent who wants to know if this examination makes an ideal selection test. The experts are doing research work, trying to discover the best path for future experiment. For them it is vital to know if the work now being done is, generally speaking, on the right lines, and if so, whether it can be taken any further on those lines. They are concerned

with a technique: only incidentally are they concerned with children.

There can be no doubt that, viewed in this way, the new type of test finds nearly all the top layer of the eleven-year-olds suited to an academic secondary education. This cannot be too strongly stressed, especially if earlier statements in this chapter may have seemed a little pessimistic. What does remain, however, when this has been granted, is the fact that some children (an unknown proportion) will get an I.Q. which flatters them or lets them down. They are the ones who are hidden by the statistical averages of our reliable examination technique. When they are extracted from the examination marks and turned into human beings again, they are seen to be children who are going to be misplaced in their secondary school careers. They include the rather dull girl who will fray her nerves at the bottom of the Grammar School, and the boy who will feel frustrated at not going to a Grammar School at all. These slip through the carefully-devised modern system, though in smaller numbers than with any other yet used. Chapters VII and VIII suggest ways of reducing the numbers still further.

The Next Stage

No spectacular gift of prophecy is needed to forecast that the future of selection, at the age of eleven, will follow one or more of three possible courses:

1. The present system of examination will continue, with natural developments, but no fundamental change in character.
2. The examination will be dispensed with, and other methods of selection will be used.
3. All external methods will be abandoned, and the authorities will hand the problem to the schools.

This chapter will deal with the second of these possibilities, while the third will be treated in Chapter VIII.

Even before the days of the new examination, there were those who decried all written examinations, and now that the flaws in the various methods are known, such criticisms are more often heard. No written test, it would seem, can be fully depended upon, and it would surely be better (runs the argument) not to have such a test at all. The people who advocate selection without a written examination are sincere seekers after the better thing, but what they advocate does not really dispose of the written examination at all.

There are two basic suggestions whereby the examina-

tion could be abolished. Selection for secondary education could be arranged:

1. In accordance with the opinions of the primary school teachers.

2. As the result of special interviews.

It is the former of these that sounds the more promising. One of the strong arguments against any written examination is that it may do serious injustice to an individual, even if it gives a good over-all picture of the ability of a whole group. Much better, surely, to consult the teacher who has steadily taught the child for a long time, who knows his strength and weakness, and is not influenced, for good or ill, by a single chancy examination. The argument is so plausible that it is surprising to learn that all the evidence points the other way.

Very many authorities have collected, and still collect, the opinions of the primary school teachers, and none of them has found a way of using them except as supplementary information. Comparisons between teachers' forecasts and pupils' subsequent achievements suggest that it would not be feasible to consider allocating children on these forecasts alone.

Why should this be?

One serious difficulty was hinted at in an earlier chapter. However carefully the teacher may try to assess a pupil in a broad, general way, he is in fact living and working in a small community, and his judgment is based on the standards of that community. If he says that, of his class of thirty-five, eight are suitable for a Grammar School education, he is creating a border-line. And if, in even a small

area, twenty schools are each separately creating border lines, it would be absurd to expect all the lines to be drawn at the same level. In any case, however rigorously the teacher disciplines his judgments, he must at times find himself boosting a child because he likes him and wishes him well, rather than for the positive reasons which would fit the child to an academic kind of education. He would invent reasons why his protégé should do well at a Grammar School, and, without consciously cheating, would be mistaken. Or he may have fallen foul of a good pupil, and, while not deliberately damning him, might decide sincerely that the child was unfit for a Grammar School, and be mistaken.

If there is one virtue whose value has been brought out in previous chapters, it is objectivity, and modern educational thought rebels against so subjective a method as that of teachers' opinions alone. Indeed, we would go so far as to say that, in an imperfect world, it were better to be impartial and inaccurate, than to aim at accuracy and be suspected of favouritism.

The rejoinder has been made that the teacher has various external aids to guide him, so many, in fact, that his decision ceases to be a matter of opinion, but an expression of facts. These aids are the bits and pieces of information gathered together on a record card. The advocates of the record card as an instrument for assessing the worth of a child, though driven by the highest motives, have quite overstated their case, and argue from their idealised theories instead of from a study of what actually happens—and must happen—to these record cards.

Presumably most schools have always kept something of the nature of a small card-index, for easy reference to such matters as addresses and other administrative details. The record card is far more ambitious. The intention is that it shall contain all the relevant information to enable a competent person to give the child educational and vocational guidance. To this end, it seeks to record the history and character of the child under certain headings which vary according to the ideas of the designer of the card. Obviously one group of entries deals with his attainments in school, and thus records positions in form, I.Q.s, and results of special examinations or tests. Other groups of entries will deal with straightforward facts such as medical history, school offices held (e.g. class monitor, captain of a society, or other indication of leadership). However, it is not these items that constitute the bulk of modern record cards, but rather a set of entries which try to evaluate his personal qualities.

As was pointed out in Chapter VI, an oft-repeated criticism of the intelligence test is that it does not assess a child's character: it cannot decide whether the pupil, even if highly intelligent, is likely to be good worker, conscientious or enthusiastic, or a good mixer, co-operative, and willing both to lead and to follow fairly. It was also pointed out that some Grammar School failures might have been predictable, if such personal qualities could be diagnosed at the start. So it is that the record card tries to build up a clear picture of these qualities, and this is no easy thing to do. We have not discovered a means of evaluating numerically a perseverance-quotient (despite certain rather crude

pencil-and-paper tests), or of deciding that a pupil's spirit of co-operation with his teacher is of the order of 114 or so. On the other hand, if our card describes every child in vague terms like "fair", or "satisfactory", or "rather poor", the total result is altogether too nebulous to be reduced to the quantitative basis which alone is finally acceptable in the border zones.

Of course, if there were some agreed standard represented by the word "fair", so that all teachers using it anywhere meant the same thing by it, then a big step forward would have been taken. One might even assign to "fair" some figure like 95 which is more easily manipulated than an adjective. Let us suppose, for instance, that a record card contained a group of remarks like this:

Co-operation	Satisfactory
Sociability	Quite good
Leadership	Rather weak
Dependability	Good
Enthusiasm	Fair

The picture thus drawn is more difficult to appreciate and interpret than it would be if we could say, for example,

Co-operation	104
Sociability	109
Leadership	83
Dependability	112
Enthusiasm	92

These figures convey their message, such as it is, more easily, especially as they can be added, or averaged, or

weighted. Even so, such mathematical treatment does not make them basically more useful than their weakness of origin (which is a mere estimate) will allow, and the information they convey is not always very helpful, as is explained below.

Although no means exist for producing figures like those on p. 113, investigators do not despair of the possibility of finding symbols which could have a fairly wide measure of standardisation. Rejecting as impractical any notion of distinguishing, say, 94 from 95, as a mark for "leadership", they envisage a "block" system, which does in fact reduce itself to a kind of differentiation into weak, below average, average, above average, and excellent. The use of a five-point scale, as it is called, is now common, though scales with other subdivisions are also in use. The effect of such a scale is to divide the pupils into general groups, and in order to help the teacher with the assessment, the creators of the cards publish amplifying details. Take sociability, for instance. To be put in the A (or best) group, a child might have to conform with some description like: "Completely at home in the company of others, never shy, readily accepted as a friend, not aggressively self-assertive, a good loser in team games." If conforming to the following description, he should be given C (the average mark): "Generally found in the company of others, and usually happy, but sometimes quarrelsome and inclined to go away and sulk, especially if he cannot have his own way; soon persuaded, however, to return to the company of the group."

Marked on the five-point scale, the card-fragment of

THE NEXT STAGE

the imaginary pupil whose case we have already twice recorded, might look like this:

Co-operation	C
Sociability	C
Leadership	D
Dependability	B
Enthusiasm	C

The reader will observe at once how much this system has altered the details of character observation. This has become a nearly "average" child, and the differences suggested by the (imaginary) marks that were assigned to his various characteristics have now mostly vanished. This is a measure of the difficulty of assessing personal qualities accurately; the only practical solution so far devised is not to try to measure them at all finely.

It may be wondered why most of the above qualities are described as being in the "C" category. Why is enthusiasm (hitherto "fair" and "92") not a "D"? or sociability (quite good, 109) a "B"? In the end, of course, they might have been: the individual teacher has the tricky job of deciding which really suits the child. But there is one numerical rule which he is asked to observe, and which solves, albeit roughly, many of his problems for him. If the five categories are to have a general meaning, applicable over a wide area, and not just within one school or class, some attempt must be made to standardise them. Ideally, an "A" should represent the same kind of quality in a Dorset village as in a Manchester secondary school. It does not, of course, nor can one conceive that it ever will. But we can approach

the ideal by making one assumption, namely, that all ordinary schools everywhere contain a similar cross-section of the child population, so that the same *proportion* of pupils of a certain kind will be found in all of them.

On the basis of this assumption (which is of course by no means an accurate one) the teacher is asked to assume that, for every item that he is assessing, five per cent of his pupils are in the "A" group, fifteen per cent in the "B", sixty per cent in the "C", fifteen per cent in the "D", and five per cent in the "E" group. (These figures vary with different investigators, but the principle remains.) Thus the little village school of forty children can be supposed to have two children of "A" standard, whereas the school of 400 would be credited with twenty. By this means, some check is made on the tendency to overdo any assessment of brilliance; by this means, the majority of all pupils will be "average".

The intention is that these assessments should be made regularly, generally once a year, rather than on a single climactic occasion, so that the card will present a series of letters that tell the tale of a school career. The armchair theoretician no doubt expects to find this revealing a steady growth of certain characteristics, or a lessening of others. He visualises something of this kind:

	Age 8	Age 9	Age 10	Age 11
Co-operation	C	C	B	A
Sociability	B	B	B	A
Leadership	B	C	C	D

and can joyfully show the value of such a document in revealing a developing personality.

THE NEXT STAGE

How would he interpret the result if this particular fragment of the card read thus?

	<i>Age 8</i>	<i>Age 9</i>	<i>Age 10</i>	<i>Age 11</i>
Co-operation	A	C	B	C
Sociability	D	D	B	C
Leadership	C	B	C	D

This is a very possible combination; no one line does anything violently unlikely. The record of the years is, however, very confusing.

Or take a combination of this kind:

	<i>Age 8</i>	<i>Age 9</i>	<i>Age 10</i>	<i>Age 11</i>
Co-operation	A	A	A	A
Sociability	B	B	B	B
Leadership	D	D	D	D

This is, in some ways, more likely than the previous example. What does it do for the person who is to allocate the child to a course of secondary education? It simply tells him that the child has some of the right personal qualities, and lacks others that might perhaps be useful. Unless some absurdly rigid rule is applied, such as "No Grammar School without a 'B' in co-operation", the mass of lettered information (of which these examples represent only a small part) cannot be of service to the administrator.

As a matter of fact, all the above examples convey a false impression of the way in which the record card is filled up. Examination of hundreds of these cards from many different primary schools shows that, while they vary in general value, they have one feature in common; they are visibly

filled *en masse* in a hurry, either once (to cover two, three, or four years), or only rarely. The primary school teacher evidently does not use them with the loving care that their inventor hoped, nor is the reason far to seek. For the teacher, the great majority of his pupils are "ordinary" children, some with one trait, some with another. He (or she) knows by instinct and training that this child is rather shy and must be treated with gentle humour, that that one will respond best to a more robust approach, yet neither is abnormal—not even in a "D" or "B" way. The teacher does not think of them as occupying different points on a rating scale. He knows that some are brighter, some are duller; one or two even are brilliant, and one or two nearly ineducable. An extract from the record card would probably look something like this:

	Age 8	Age 9	Age 10	Age 11
Co-operation	B	B	B	B
Sociability	B	B	B	B
Leadership	B	B	B	B

or only a little different. And, as was suggested just now, the card was probably filled up barely in time to be forwarded to the child's secondary school; the teacher had felt no urge to keep it up to date.

It must not be thought that this is a criticism of the attitude of the primary school teacher, or that he is incapable of identifying the inconsistencies which the record card is intended to reveal. The clever child who could do better but is too smart to work, the dull plodder who achieves results but must not be overworked, are well known to

him. What the good record card should do (if there is a good one) is not to demand thousands of letters indicating normality, but brief notes showing departures from normal. An isolated "D" in a haze of "B"s is not a conspicuous object, and the "B"s take a painfully long time to write. But a note stating that: "This boy's results look good, but the high pressure of Grammar School work would probably get him down", stands out clearly, and there is no need to write the masses of letters at all.

Some authorities recognise this, and their cards have space only for recording the unusual, lack of such a record being taken to mean that the child's general work and attitude call for no particular mention. Such an arrangement saves the teacher a great deal of quite unnecessary labour, and allows him to consider more carefully the cases that call for comment.

Those who do try to assign an exact letter to each child for each trait of character are constantly troubled by the numerous sub-border-lines that are involved. This child is slapdash: do I give him an E for thoroughness, or is he "D"? This other child seems a real leader, but do I overestimate if I give him "A"? Much more difficult are the "C"s. They cover such a wide range that the almost-"B" is a very different sort of case from the nearly-"D". To avoid these numerous interior border zones, some record cards ask only for a three-point division, wherein the great majority are "B", and the obviously good or bad become "A" or "C". But this solves nothing. The obviously good or bad are not obvious in the new border zones, and few can resist inventing a "B"-plus or an "A"-minus, thereby once more creat-

ing five or more points on the scale. One reform which seems worthwhile, supposing that these cards are worth retaining at all, would be to have an even number of points on the scale, say four. This would have the effect of creating a border line right in the middle of the "average" zone, and this, however indefensible in theory, would compel the teacher to decide between "good average" and "not very good average", with more useful results than the present nondescript mass in the middle.

The chief reform necessary, however, is the abolition of much of the detail, leaving only information that is positively relevant; but it is doubtful whether any reform in the method of filling in the blanks can make the record card a useful means of allocating a child to any course of education. The underlying principle is that the more you know of a child, the more exactly you can identify what he needs. But this, pursued to its extreme, would mean that every child would have an individual requirement, and must be separately educated; and multiplication of detailed facts would make him more and more a special case. This is neither desirable nor remotely possible. The plain fact is that, whatever form his secondary education may take, only a few different kinds of school are available for him, and the administrator must decide which of these few will best suit him. His decision will not be made easier if a greater number of conflicting factors are put before him; for good or ill, the boy must be educated in a group with hundreds of others, and he must in some general way conform to a pattern in which these hundreds will fit. This would remain true even if a completely new school set-up were invented.

It is fair to say that, so far from seeking the many subtle or finicky points that differentiate a child from his fellows, we want a system which will classify him *with* large numbers of his fellows, and so enable all to be educated together. The present system in common use does classify children into big conglomerations based on intellectual ability, and it is hard to see how a better basis could be found.

This does not mean that character traits are to be ignored in the selection procedure; on the contrary, the criticism that the objective tests do not take character into account is valid, and should be met. But the actual number of children whose personal qualities are so completely at variance with their academic achievement as to make it desirable to ignore the examination result, is extremely small, and such cases can be brought to the notice of the people concerned without the need for record cards. For how many parents would feel satisfied with being told, "Your son is constitutionally lazy, so though he has a high intelligence, he is not going to a Grammar School"?

Despite these difficulties, many research workers are convinced that the future of selection lies in more accurate record card techniques. In my view they are wrong, because there is a more fundamental objection to record cards. They are bad for the very reason that they record. They create a case-history: they risk turning ordinary children into psychological problems.

Any schoolmaster knows the type of man who, discussing a Fifth-form boy, says: "Yes, I remember him from Form I. He was a thorough rascal; don't trust him." Or, "Make *him* a prefect? But I caught him cheating when I took him

in 2b". These are commonplaces, found not only in school. We are all guilty of applying them, sometimes to adults as well. But children develop spasmodically, at times making marked progress, at others seeming to stand still; their behaviour varies according to a large number of internal and external pressures; they regularly get into hot water—sometimes through sheer misfortune, sometimes through temporary naughtiness. The quality of their work fluctuates without logical explanation also. None of these things should be held against them. They do not call for the help of the psychiatrist. Yet the welfare staff might be tempted to send them there if confronted with a card which committed to the unforgetting and unforgiving archives statements like these:

Smith.

Age 7: Bottom in form, not working.

Age 8: 13th in form. Three days' truancy.

Age 9: Caned for uproarious behaviour in playground.

Age 10: Lied about homework.

These things are part and parcel of his development, and though many record cards do not descend to such trivialities, some do, and in any case, *all* records of earlier failure are liable to give a wrong impression to anyone trying to analyse the card. Children change very quickly; at the age of eleven it quite simply does not matter what their school report was like when they left the infants' department. The only thing we really want to know is what they are going to be like at a secondary school; the only way we can guess at this is to find out what they are like now.

Here again, there is, of course, the proviso that self-evident exceptions need exceptional consideration. The child who has *always* been lazy, or dim-witted, or troublesome in behaviour, will have long since made his impact on the teachers, and they will know him for what he is. Such a boy should be—and usually is—reported on specially and separately. The child who, on the other hand, falls momentarily from a normally high standard is at once spotted by his teacher and observed; to put the incident in a permanent history is useless for present purposes, and misleading for the future.

If, then, the teachers in the primary schools are to say which of their children should go to Grammar Schools, they do not need, and should in fact avoid, recourse to record cards dealing with earlier history. Their opinion and recommendation must be based on present impressions and information. Indeed, on information only, for, as has been repeatedly said, the whole climate of opinion is against selection by impression. What this boils down to, is that they can only offer us class positions, based on marks awarded for work done. Instead of carefully assessing each separate child and formulating some kind of opinion, the teacher prepares an order of merit from the children's actual attainments.

Suppose he does this for all his pupils, it is obvious that the question is still not fully answered, "Which of these are to go to the Grammar School?" The top ones will, the bottom ones will not, but the phantom border line still haunts the would-be solver of the problem. The teacher cannot reasonably insert this line himself. How can anyone

else insert it? Only by using an outside yardstick that will in some way measure all the children in the area under consideration.

There is more than one way of applying the yardstick, but the methods have this in common, that the yardstick turns out to be no other than one, or more, of the tests that have been discussed in this book. The general idea is that the children of an area shall all do the test (or tests), and that the results thus gained shall be fitted to the results supplied by the teachers from their own classwork. This is done graphically, and is no difficult matter; its effect is to ensure that the teachers' information is suitably modified and controlled by the information gained from the external test or examination.

We do not know how many authorities employ some such procedure, or, indeed, any particular procedure, because the English system allows them all a free hand, and it is doubtful if there is anyone who is in a position to be sure what each authority is doing. The educational papers publish scraps of information, either as articles or as news snippets; apart from such references, the layman must pick up his knowledge from books, generally written by the more enthusiastic local officers, who feel they are doing something interesting and want others to know of it.

One of the books has come from Lincoln, where the former Headmaster and Senior Science Master at the local Grammar School have had much to do with a scheme that operates in the city. It is based on a combination of teachers' marks and I.Q.s. Each separate school grades its classes of eleven-year-olds into an order of merit, so that the adjudi-

cators have a large number of sheets each containing the names of a whole class of primary school children, in a certain order. The children of the whole area work an intelligence test of a standard type, and it is assumed that this will in its turn produce an order of merit which is independent of differences of schooling, and can therefore be used to "adjust" the teachers' information. Suitable age allowances are made, and the certain passes and certain rejects are thus identified, leaving a border zone to be dealt with by other more careful means.

Fundamental to this scheme is the assumption that the intelligence test is ideal; the order of merit that it gives is accepted as dependable. It is in the end the teachers' lists which are altered to conform with the I.Q. results, not the other way round. Consequently it is the I.Q. which draws the various border-lines for the different schools. But, as we have seen in the last two chapters, the intelligence test is imperfect, and this is why the results still leave a difficult border zone problem. If Lincoln used an intelligence test and nothing else, it is doubtful if anything very different would emerge, but the combination with teachers' assessments *looks* better, and this is something worth while.

The scheme is described as "Selection for secondary education without a written examination", and this title reveals its *raison d'être*, and betrays its shortcomings. It is an attempt to meet the criticisms of the old-fashioned examination, and it started (before the last war) on lines that were then fairly novel. It seems, in its present form, to be as satisfactory as many other methods, but the assertion that it is selection without a written examination is no longer tenable. As we

saw in Chapter III, intelligence tests are just the modern way of conducting a written examination.

In essence, then, the scheme uses an I.Q. test adapted to teachers' estimates, and as such may possibly be rather less dependable than the combination of I.Q., E.Q., and A.Q. in general use today. However, its authors say that both parents and teachers approve of it, so it can fairly be called successful.

This does not mean that it can be copied everywhere. Certain of the difficulties inherent in it are smoothed out because it is being used in a reasonably compact area, that does not suffer from too many small or all-age schools. The authors make the point that personal knowledge of the limitations of the teaching in different schools is valuable when weighing one candidate against another. On the whole, however, the drawing of the border line in the different schools is being done by the I.Q.

A similar scheme was announced for the Borough of Derby in 1956. It was reported, as usual, to mean the end of the written examination at the age of eleven, but in fact it is all based on the taking of an I.Q. examination in all schools. Once again, this is a smallish area, and there is every reason to suppose that the scheme will work there as smoothly as at Lincoln. But it is *not* abolishing the written examination.

Another plan which has its adherents is known as the Quota system, and is associated with the name of Professor C. W. Valentine. In outline, it is somewhat similar to the Lincoln system just described, inasmuch as pupils in all the primary schools take an intelligence test. An I.Q. score is

then fixed, based on the number of Grammar School places available, and each school is allotted so many Grammar School places according to the number of its children who have the required I.Q. The decision as to *which* children shall proceed to the Grammar School is then (theoretically) taken in the schools themselves. In practice, this means assessing border-liners, and the schools compare test marks with what they know of the pupils; they may base their conclusions on the children's day-to-day work, or on a further battery of tests, but their choice is limited to the quota (i.e. the number) allowed to them by the original intelligence test. As there is an obvious risk that the schools may not be regarded as impartial in their judgments, some areas refer all the relevant information (I.Q.s and school comments) to outside referees. It is hard to show that this system gives more clearly reliable results than any other.

Again, there has come from Wigan a method known as the "psychograph", which claims all the merits and none of the disadvantages of the others.

The "psychograph" is a record of:

1. Two intelligence tests.
2. An A.Q., together with teachers' assessments of the child's ability in arithmetic.
3. An E.Q., together with teachers' assessments of the child's ability in English.
4. The average of all the above.

There is one such document for each child, and the reason for the name "psychograph" is that these figures are plotted on a graph, instead of being left in lines or columns, pre-

sumably on the assumption that they are thus easier to interpret.

The Wigan Authority also adopts what appears to be a very sensible scheme, namely, to ignore any score which is so disproportionately low, compared with all the others, as to be suspect on general grounds. Such a score they call a "flop" score, and it is assumed that, for whatever reason, the candidate did not do himself justice in that particular test. The principle might well be applied by other authorities, for it acknowledges that the modern scientific test *may* go astray, and treats it accordingly.

Mr. Reese Edwards, whose booklet (see p. 171) describes the procedure, summarises the objections to his psychographs. He rightly dismisses some as trivial, some as false, some as uncalled for. In one case, that of the interview, he does not meet the criticism except with counter-opinions, and three other criticisms are omitted altogether. As it is possible that they had not been made, I make them now.

First, the Wigan scheme claims to allocate children to schools according to their need, expressly denying any idea of filling Grammar School places with the "right" number of children. Yet the whole tenor of the pamphlet is that of success or failure, and the only support that is brought to the contention is that the number of Grammar School entrants varies a little from year to year, but nothing is shown to justify the cut-off point except an arbitrary average score of 115. The most innocent layman now knows that this figure, however derived, cannot by itself represent the dividing line between "academic" and "non-academic". Average scores below 114 are (I quote the significant Wigan

term) *rejected*. Only those with 114-115 are left in the border zone for further consideration: and it is also significant that a child in the border zone is (again I quote) "given the benefit of the doubt", which can only mean that the Grammar School is the prize and the other schools are for the failures.

But the theoretical basis of the scheme is also open to criticism. The pamphlet says: "Admission to a Grammar School should not be assessed relative to the standards of all other children wishing entrance in that particular year, but should be arranged by means of the assessment of the fitness of the pupil in any one year for Grammar School education." Here are assumptions indeed; the idea that it is possible, in some absolute way, to determine a child's fitness for any sort of education without comparing him with others, is one which only the bold would venture to maintain. It just is not possible, so far as we know. The figures on which the Wigan "psychograph" is based, depend for their standardisation on comparisons with other children; any further use of these figures does not alter their origin. The "best" implies a comparison with others of the same age. If the general standard rose, the academic course would raise its sights, and the child previously thought just fit for it would no longer be good enough.

A second criticism concerns the use of the teachers' estimates, which are here treated so confidently as to yield exact "quotients" equivalent to A.Q.s and E.Q.s, carrying the same weight as the elaborately prepared Moray House type of test that is also done by the candidates. Of course, care is taken to scale the teachers' figures so as to make them comparable with the others, but they start their life as

minutely devised measurements which relatively to each other remain unaltered through the scaling process.

Now, is it reasonable to suppose that "quotients" so derived are reliable? The Wigan pamphlet says that "exhaustive" experiments proved that to use both sorts of quotient gave the best prediction of success in the area in Scotland where the problem was examined. Apart from the fact that one cannot experiment very exhaustively in the few years that were available for McClelland's Scottish study (see p. 172), and apart, too, from the fact that the experiments there were local, one cannot feel too happy about the criterion of success that was chosen by the experimenters.

Lest it should be thought from the foregoing that the children of Wigan are being in any way unfairly treated, I hasten to make it clear that one need have no quarrel with the *results* of this scheme, and any authority is to be admired that tries so earnestly to do the right thing in choosing its children for secondary education. It is the methods which are open to question, and this leads to the third criticism; namely, that in fact this is basically the same as most other schemes, but just a little disguised. It can be taken as broadly true that at present the "average" method of finding the clever children is to find an I.Q., A.Q., and E.Q., and thence to establish three lists of names: (1) Certain passes, (2) Border-liners, and (3) Non-Grammar School. It is in dealing with the second of these groups that the greatest difficulty, and the greatest variety of technique, occur. The Wigan scheme creates these three groups in very much the same way as other authorities do, except that (a) it includes two items that may well be questioned, but which cannot

greatly affect the result one way or another, and (b) it keeps the second group small. In short, it would seem that, with so difficult a problem as this of selection for secondary education, there is always the danger that refinements and elaborations may hide an ordinary scheme behind a seemingly new identity.

The Kent scheme, announced towards the end of 1955, is squarely based on plain facts, and does reveal a new identity. The Press reported it (yet again) as the abolition of the eleven-plus examination, and for once this is at least a half-truth. Near the border-line, I.Q.s, teachers' estimates, and other aids are used, as in the many other schemes already discussed, but Kent has recognised that *any* system of allocating places can find the best candidates with small chance of error, and is therefore prepared to accept the top layer quite genuinely without examination. This is all to the good, if public opinion is satisfied that no favouritism is involved. The scheme demonstrates that the top ones choose themselves, and concentrates its elaborate technique on those lower down.

One authority that has for long been associated with forward advances is Northumberland. In co-operation with Professor Godfrey Thomson, they were using standardised tests at a time when many others seemed never to have heard of them. In 1946 they issued a report which clearly showed that they thought they were moving ahead again, and in 1947 they did move further along the lines they then laid down. But the direction in which they were travelling was one that was—and is—highly disapproved by many; and there is no indication at present that it is possible to move

very far along this road. The idea arose from a scheme for selecting the best of the border-liners, and, in essence, consists of a well-developed interview technique.

The National Union of Teachers' report in 1949 set itself firmly against the interview, and many experts wholeheartedly agreed with them. Yet recent history has brought the interview more and more into the selection procedure. One naturally looks for an explanation of such a divergence between fact and theory.

A great deal of the difficulty arises from a lack of definition of terms. The word "interview" means different things to different people. Hostility to the procedure comes from those who think of an austere panel of frowning adults on one side of a table, and a small, nervous child on the other; from those who remember the uncouth and unsuitable personages they have themselves faced in interviews; and from those who rightly scorn the cocksure head teacher who claims that he has only to see a child to judge at once if he is suitable for a Grammar School. Such types have existed, but fortunately times change, and so do interviews.

Many authorities make some use of interview technique in assessing those in the border zone. It is clear, of course, that there need not, in fact, be any border zone. There is nothing to stop an authority from drawing a line at any given point, and decreeing that thus far and no farther will they go. Indeed, such a procedure has this to commend it, that no parent can then complain of anything except the examination. In some areas this is done, but probably in very few. Such a rigid approach was abandoned because the primary schools were convinced that injustice was being done. They

were satisfied about the best candidates, but felt that among the doubtful ones, the wrong ones were sometimes being chosen. An authority does not ignore the opinions of its teachers, and soon the idea was accepted that there should be some sort of review of border-line cases. The method adopted was like the Northumberland one in essence, though less exactly planned; and one wonders whether, up and down the country, similar valuable schemes are quietly being tried out without ever receiving publicity.

The technique is that of the "interview", but with a big difference. Just as the original intelligence testing was an individual affair, with a whole battery of separate little tests administered to the child on his own, and the sum of all the separate little components was estimated: so the new-style interview is not a formal, single meeting with a group of people on the "other" side, but a series of separate meetings with individuals in conditions that, as far as possible, do away with unnatural nervousness.

The Northumberland interviewing panel, as described in 1948, consisted of upwards of half a dozen members: the Grammar School heads, heads of other secondary schools, and primary school heads. The children to be interviewed went one at a time to each member of the panel in turn, and were given jobs to do—to write, to detect errors in a list supplied, to discover some easy information in the library, to work a code, to use a time-table; while at some stage they were also invited to talk about special interests, whether of doing or reading. In all these sub-interviews, it was regarded as essential that the children should feel at ease.

After this, the members of the panel met and pooled in-

formation: scaling schemes converted the results into an approximate numerical mark, which thus yielded an order of merit, and the primary school rating also contributed to this order. Thus were the border-liners finally sorted out, with careful reference to school records, examination figures, and interview impressions. It cannot be doubted that it was a most painstaking attempt to solve the problem.

Similar schemes have worked for some years in other areas, and it has been noteworthy that the primary school heads there are fairly well satisfied that no really worthy child has been excluded from the Grammar School.

In their 1948 report, the Northumberland Authority expressed the hope that they might be leading the way to a new method of selecting children for secondary education, wherein *all* the children should be chosen by panels of interviewers. It is unlikely that there is much future in this, and the idea has probably been dropped or modified in Northumberland itself. Not only would it involve a big difference of organisation on the part of the panels, whose work would become vastly more complicated, but in any case, this can only be expected to supplement other examination information, not to supersede it. Even so, the possibilities of the interview have been demonstrated, for it does offer some chance of standardisation. "Interview-tests", in fact, can be made common ground for the assessment of a large number of children, and experience can be expected to lead to a scheme that produces reasonably reliable results.

There is always the danger, of course, that such a scheme may produce a pattern of tests for which teachers in the primary school can "prepare" their children, but the

potential range of problems and interests is great enough to remove much of the danger. In any one year a completely new set of "interview-tests" can be devised, and in a limited way standardised. For Northumberland has pointed to an important possibility: there, they prepare as it were norms by trying out these interview tests on first-year Grammar School children (one year older than the ones to be interviewed), thus gaining valuable knowledge of what to look for in the interviews proper. There seems no reason to doubt that such tests could be worked by groups of the *same* age in different areas, as is done with intelligence tests.

The interview is certainly not dead; on the contrary, although many continue to fight it, it is gaining ground.

The reader who may have been perturbed by the shortcomings suggested in Chapter VI should by now be reassured. Great care is being taken, and the utmost ingenuity is being used, to circumvent the possible pitfalls in the selection system, and if a hundred per cent success has not yet been achieved, at any rate the charge of unfairness can be rebutted. Mistakes are bound to be made in dealing with human, undeveloped material. *Any* system must be based on what the child is now and can do now, without any guarantee for the future, but, all in all, the current procedure stands up well to its critics. Within the present framework of secondary education, an efficient method of allocation has been devised, is being faithfully applied, and painstakingly improved. Those who deny this must answer the question: What procedure would you substitute?

If they know of a better, there are 146 Education Authorities who will welcome it joyfully.

Why Select at all?

IT has just been said that *within the present framework* of secondary education there has been devised a selection system in which we may have confidence.

The question, of course, arises : Could we do better if we organised our secondary education differently? Attempts to answer this question have led to some of the fiercest of present-day educational controversy, and because the arguments are based chiefly on hypotheses, and refuted by appeals to fact which largely ignore the hypotheses, a frustrating position has been reached wherein both sides think they are right, and neither side can prove it. This is likely to happen whenever any suggestion is made to alter radically an existing state of things; the advocates of change can only *guess* at the virtues of what they are proposing, while those in favour of the *status quo* can *guess* that the virtue will not exist, or will be outweighed by faults. For this reason it is wise, and has long proved acceptable to the English character, to make changes gradually, so as to try them out thoroughly before adopting them wholesale and extending them. Unfortunately, it sometimes happens that a proposed change is so fundamentally different from the current system that, if it is to be tried out, it must spring fully armed from the sea of controversy and fight its predecessor without hope of compromise.

Protagonists of change in secondary education would like to see Comprehensive Schools set up, and all existing types of separate secondary schools abolished. In this chapter an attempt will be made to assess the weight of argument for and against the idea, but it is important at the outset to realise that such an arrangement means abandoning the Known, with its failings and established virtues, for an Unknown, which, admittedly Utopian, may turn out to be unsatisfactory in practice. You cannot slowly evolve separate schools into one big school; the thing must probably be done, in any given area, in one swoop.

Before marshalling arguments, let us define our terms. A Comprehensive School is one which *all* children of secondary age (i.e. over eleven) in a given area can attend. It is Grammar, Technical, Modern, and any other Secondary school merged into one school. For reasons that will appear, it must be a big school, and, save in very populous parts, must draw children from a wide area. Within this school, all the facilities—staff, library, games, equipment, laboratories, workshops, gymnasium, stage, dining-room, playing space—are equally available for all the children.

The merits of such a school are largely theoretical, and what follows is an attempt to put the point of view of each side. If I seem on the whole to favour one more than the other, or even to take an intermediate position, the reader can put the emphasis differently and reach his own conclusion. It is, however, to be hoped that, in reaching this conclusion, he will consider only those facts that are truly relevant.

Let it be made clear at the outset that the urge to change

secondary education to this new system comes from social rather than educational motives. The spirit of the times favours equal opportunity, and parents whose children "fail" to get into a Grammar School are convinced that their offspring are being less well treated than those who do go there. Because in many ways our society is steadily becoming less sharply differentiated into classes, the apparent division of *intellect* into a hierarchy of schools containing the "cream", or "aristocracy", and other gradations of ability, looks wrong. The New Schools would reflect the New Age, and training in school would be training for adult life. It is not argued (except by extremists) that all should receive the *same* education—though some writers to the papers seem unaware of this fact—but that all should have the same *chance*, and share in a common environment.

The chief answer made to this particular argument is that it may be perfectly true, but that the Comprehensive School does not appear to be *more* likely to reflect the social pattern of the times than does the present system. In fact, neither system could ever approach the "classless" ideal in the world of education, nor should we wish it to do so. The big world for which children are being prepared contains people of all kinds, often living physically close together, but proximity does not make for universal brotherhood. Our capacity for friendship is limited; we choose our companions and generally remain loyal to them. In so doing, we are not despising others, but simply showing that we prefer the company of those whose sympathies we share. Children at school do the same. They split into small groups,

and it is common knowledge among teachers that each group is amazingly ignorant of all the others, sometimes not even knowing for months the names of pupils in the same class.

In any case, the existing arrangement cannot fairly be said to represent a hierarchy of social prestige. From the days when fees were abolished in Grammar Schools, money has been unable—even clandestinely—to buy what brains have failed to achieve. Every social class (except the group which sends its children to the independent schools) is represented in every kind of secondary school, and all meet on common ground within the school. In merging all such schools the Comprehensive School would neither gain nor lose from this point of view : it would simply add together separate similar sets of conditions.

Yet the Grammar School no doubt has its aura of tradition, and it is fairly argued that merely to be there provides a stimulus, or a background, which rouses in a child virtues that might remain dormant in, say, a secondary modern school. This may not be true; it may simply be that the intellectual level of Grammar School pupils makes it more likely that children will develop self-confidence, pride in their work, even arrogance at their achievements. Suppose, however, that it is true; it is then just another way of saying that the Grammar School is more respected, and other schools less so, at present, and if other schools were equally respected there would be the same sense of pride in belonging to them. Thus we reach the second big argument in the controversy, parity of esteem.

Behind all the talk about social equality, there nearly

always lies the parents' desire that their children shall go to as good a school as their neighbours'. It seems to me that this is not really a political matter, though political parties are reacting to it differently, but a matter of human nature. A parent does not necessarily demand a *suitable* education for his child, but only that the child shall go to the best (i.e. the most esteemed) school in the neighbourhood. This generally means the Grammar School, unless he is willing to pay high fees, and he is unimpressed by suggestions that a Grammar School education is unsuitable for his child. What is good enough for Smith is right for Robinson, and now that all schools are available to him free, he wants the Grammar School. There can be no doubt that dissatisfaction on these lines has grown greatly of recent years.

The Comprehensive School would deal with the problem once for all, say its protagonists. If all go to the same school, no parent can be jealous of any other. Parity of esteem would be achieved at one blow by being abolished altogether, since no basis of comparison would remain.

This is a good point, for the goodwill of parents can very greatly influence the general attitude of the child to his schooling. If the problem of parity of esteem can be thus solved, it may be worth doing for that reason alone. There can be little doubt that a theoretically perfect scheme is going to fail if it does not carry the blessing of most parents with it.

But would the Comprehensive School really do away with differences of esteem?

Smith and Robinson are unlikely to agree for long that their children are equally good: human beings are far more

given to competing with each other than to happily agreeing. Smith's child must be *better* than Robinson's. At present, Smith minor goes to the Grammar School, and is thus visibly and demonstrably superior. Suppose now that the Robinsons carry out an educational revolution, and contrive to get all the Robinson minors into the same school as Smith's boy. Only a small outward symbol has been altered: Smith has not changed. He will still devote his energies to proving that the up-and-coming Smiths are the ones with brains, and will give the Head of the school no peace unless his boy is in the "Grammar" stream, and in the most intellectual part of it. Robinson's elation at the presence of his son in the same school as Smith's will gradually cool off as it dawns upon him that there is *still* something unfair in the system. Robinson minor, for all that he goes to the same school, is still not being taught with Smith. He is in the "F stream", or the "practical group", or the "active studies" class: its name sounds well enough, but it becomes apparent that it is not as good as Smith's form, and the two boys never seem to meet or be taught together. Indeed, the school is so big that they may literally spend their days a quarter of a mile apart. In short, the various parts of the school are variously esteemed.

However, let it be granted that these schools effectively lay the boggy of parity of esteem. What other advantages are claimed for them? The chief reason put forward is that they solve the problem of selection at eleven; to send *all* children to the same school is regarded as disposing of the difficulty completely. It is understandable that such an argument should deceive and appeal to the man-in-the-

street who knows little of the practical work of education. But, if the single school is desirable, it is not desirable for this reason, since it does nothing to solve the selection problem.

There are a few schools that do not try to grade their pupils by ability, but choose some other method of dividing large numbers into class units ; for instance, they may let the alphabet decide. It is probably rare for such an arrangement to continue in secondary schools beyond the junior forms, and the arguments in favour of doing it at all can be weightily countered. In a word, teaching is most effective if the members of a class are reasonably equal in ability. The weaker pupils will be stimulated by the cleverer ones only if they are not too much weaker. If they simply do not understand what the top ones are doing or thinking or saying, and if therefore they cannot believe themselves capable of saying or thinking or doing the same things, they quickly lose heart and resign themselves to being the butts of the others' derision.

A very small school, with only one class of any age group, must do its best by subdividing where possible ; but for the very reason that this is difficult, it is recognised that secondary schools in particular should not be too small. By assembling larger numbers, if necessary from a wider area, we can grade our pupils and help them to learn more readily. It must be strongly stressed that streaming is needed for the *child*: it is a sound educational process, even though the B boy is clearly labelled as intellectually not up to the standard of the A boy. The B boy will not mind, provided he is not allowed, by teacher or

parent, to feel that he has in some way failed in his duty by not reaching the A stream. He is a B boy, not as a punishment, but because he can thus best learn. Those who decry streaming are doing so on theoretical grounds, based on social thinking, not on teaching needs.

A two-stream school probably has about 300 to 330 pupils. This, roughly, is the number of boys (or girls) of secondary school age and Grammar School standard in a town of about 30,000 population. Larger populations have schools with a greater number of streams. The present average sized Grammar School in England has three to four streams, and contains 500 to 600 pupils.

Consider now a school of 2,000 children. If it is a complete collection of all the children of secondary school age in a given area, there is no theoretical reason for expecting its Sixth Form to be larger than would be found in a two- to three-stream Grammar School, say fifty. The remaining children must be sorted into classes of about thirty each. This gives sixty-five classes, covering five years, and the school is thus a thirteen-stream one, though in practice it will almost certainly be more. I have never heard it seriously suggested that the division of each age-group into thirteen parts should be done by random selection. The sensible arrangement is for the brightest ones to go into an "A" stream, and for the rest to be graded down to "M". It is very unlikely that the streams will be actually lettered down to "M": nor is it at all essential that those of lower intelligence be graded by their I.Q., which, as we have seen, is a device for identifying the really bright. But the practical result will be that the children will be grouped in the way

that makes them most satisfactorily taught. In short, whether there be three categories, or two, or a dozen, there will be a top layer which will be, in every way that matters, a Grammar School stream.

This is not mere theory. In the few large Comprehensive Schools that have been opened in England in recent years, one of the early tasks of the Head has been to identify the Grammar stream, not necessarily by that name. If the country is to have a good return for what it spends on education, its best brains must be set to work from a reasonably early age on studies that the intellectually gifted can manage; the subjects studied will include the more intellectual aspects of our technological needs (e.g. mathematics and mensuration leading to the calculus, or dynamics, or statistics, or engineering calculations), or the kind of reasoning and appreciation involved in humane studies, or the difficult task of acquiring a fair mastery of one or more foreign languages. These things are not for the average child, whatever social philosophy is envisaged, simply because only the more-than-average child can meet them without being bewildered or discouraged.

In short, the Comprehensive School must have a Grammar School element clearly identified, and, in practice, virtually separate in organisation, aim, and staffing. This fact, as will be shown later, is the fundamental reason why the school must be large.

Before the brighter pupils can embark on their academic course, someone has to sort them out from the mass of children coming into this large school. How is it to be done? If, in the primary schools, there has been a series of

tests like those now held, the Comprehensive School can take the results and put the best children into its top streams. If no primary school tests have been held, the new school must at once administer some, so as to have working information as soon as possible. This raises difficulties. For the newcomers to do important tests very soon after arriving in large, new buildings, is surely a strain which, in many cases, would lead to more inaccurate results than is now likely.

The problem of timing the tests is great, and this has led some to "solve" the problem by saying, in effect: "Let them all do the same work until they are thirteen, and select the best ones then; we shall be in a much better position to judge if we wait two years." This idea of a two years' diagnostic period is attractive at first sight, but will not bear close examination. In fact, its sponsors do not examine it closely, but recommend it on general principles only.

The proposal is that, for all children of eleven to thirteen, there shall be a "common core" of studies, and this common core seems to consist of those things which theorists and idealists have long wanted but have always been told there is no time for—social studies, local history, our environment, the whole Adventure of Man. These two years, eleven to thirteen, are heaven-sent: they are to be years of marking time, so far as final school courses are concerned, and hence they can be partly devoted to these other important things.

The content of this common core of studies is always stated in generalised terms, and I have not seen, or heard, of a programme of work which translates them into a

feasible time-table for 200 children. The recommendations include such various items as a survey of local history and government through visits to museums, police courts, fire stations, water works, and so on: a broad cultural view of world history: geography in its local relationships: the beauties of English literature and the best (in translation) of foreign writers as well: practical applications of elementary mathematics.

But all these things are no more amenable to "common core" treatment than those now regarded as normal, and they are desperately vague. The bright children will still obstinately refuse to mark time; they will learn fast and want to learn faster, while the very dull will still learn nothing: with all gradations between. And remember that the purpose of the two years is to let the school judge more readily which are its brightest pupils. Most of them are already known, and are clamouring for work suited to their ability. By delaying their start on fresh studies like French, or geometry, or magnetism, we are holding them up to no purpose. They have to acquire certain routine skills, and the sooner the better, so far as they can. At a later age they will be more imaginative, and will want to probe general underlying principles, rather than master the duller work. Things like tables, formulæ, dates, and verbs are most readily learned by children when they are young; the *reasons* for learning them can come later.

Many people point triumphantly to the successful Sixth Former who takes up, say, Spanish, and in a couple of years acquires what would take younger children the

five-years of a G.C.E. course. Hence, they argue, there is no need to start these studies before the Sixth Form is reached. Such false reasoning could lead to a postponement of *all* learning. The fact is that the Sixth Former is building on foundations laid earlier: he would not master Spanish if he had not already grasped the grammatical structure of language, and had practical experience of using it. Besides, the question recurs, and will occur again: What are these able children to *do* while they are waiting to embark on their real studies? What, in detail, is their day's work to consist of?

The common core is just a postponement. Sooner or later the problem has to be met, and those who see the difficulties do not solve them by putting them off year by year. If it became general practice that a child did such a two-year course and then settled on a specialised set of studies, there would quickly come into being a vociferous group which would write to the papers and preach to conferences that at thirteen a child was being asked to commit himself irrevocably to his future, and that the biggest blot on our educational system was this choice of thirteen as the dividing line. If the child marked time till fifteen, or eighteen, the argument could hardly alter, although the later the age chosen, the more foolish it would sound. The year of eleven is not outrageous: for many children it could well be (and in practice is) even younger.

Of course, there is the extremist who considers that, as every age is objectionable, no child should ever be set to do a course of work calling for high ability. He should never be "segregated" from his fellows, but work with them, at work they can all do, so as to ensure (?) that all

reach a "minimum educational standard", without the weaker brethren becoming disappointed at seeing the brighter ones move ahead. This ludicrous conception would not call for serious comment if it had not been seriously put forward in a recent book, entitled *Intelligence Testing and the Comprehensive School*, by B. Simon,¹ who, crystallising some contemporary social thinking in education, uncompromisingly demands the abolition of all forms of streaming everywhere, and the undifferentiated mixture of all abilities in the one (not necessarily large) Comprehensive School.

His chief arguments are these:

1. Intelligence tests do not measure intelligence; indeed, there is no such thing as "intelligence".

2. If some children seem worse than others at school work, it is simply because of differences of environmental influence.

3. Therefore it is utterly wrong to attempt to grade children as more or less intelligent, and utterly wrong to give some children one form of education and others another.

Many subsidiary ideas are added, but the general principle depends on whether the above points can be proved, and, as they are very closely connected with what has been said earlier in this book, it is worth spending a few pages in refuting them.

It cannot be denied, and need not be denied, that psychologists have very divergent opinions about what it is that intelligence tests test. But this is not proof that there

¹ Published by Lawrence and Wishart (1954).

is no such thing as "intelligence", nor is it proof that these tests do not identify the child who has it. It merely means that we cannot claim to have invented a test which tests *nothing but* the amount of natural intelligence a child has: it may still be true, as many experts believe, that Spearman's *g* exists, and that it plays a bigger part than any other single factor in the evaluation of the I.Q. by these group tests. A test can have faults and weaknesses, yet still be a test. If, for instance, we still cannot measure accurately the rate at which nerve impulses are transmitted to the brain, we need not abandon the entire science of neurology. The extremists have certainly not demonstrated that the I.Q. is meaningless, although they emphatically say it is; they have merely cast doubts on it, an easy thing to do, but not a particularly helpful one.

The second assertion is much more remarkable. The denial of inherited intelligence leads to the postulation of acquired dullness. Children, it seems, have all the same potential ability, but some get more stimulus than others, and so *appear* better. At this point in the argument there creeps in a notion which explains the background to the whole thesis—it is the working-class child who shows up badly at school, and among the many reasons for this are:

(a) Father reads only newspapers, and so cannot stimulate the child.

(b) Mother has to work, and so has no time.

(c) Teachers despise all but middle-class children, on whom they concentrate.

(d) Middle-class parents encourage their children, and thus give them an unfair advantage.

(e) Middle-class parents buy their children's academic progress.

It would be kind (if rather arrogant) to say that this represents just muddled thinking. Certain observed facts underlie these remarkable reasons. The cultural background of many homes is poor; parental interest is often lacking. But to categorise parents and backgrounds along the lines of social classes is quite unjustified. Many middle-class parents read little and ignore their children; many working-class parents successfully try to bring out all that is in their children. Many students from poor homes have proved their brilliance, whilst middle-class families have failed to get their children into a Grammar School. In fact, the whole thesis rests on faulty premises which are adopted for other than educational reasons. The assertion that the "working-class boy is as good as" some other child, if only he is taught properly, is on a par with saying that the words on this page would be as well spelt as those on the page before if only the printer did his work properly. They *are* spelt right: the printer *has* done his work. The working-class child (whoever he may be) *is* as good as the rest (whoever they are), and he is taught just as well; indeed, taught in the same way, and with them. This is totally different from saying that all working-class children are equally clever, and as clever as all other children. It is here that the extremists depart from the normal rules of reasoning.

No doubt we have not yet invented a way of *proving* that children are of different intellectual ability—or mental capacity, call it what you will—but it is absurdly unscien-

tific to state as a result that they are not. Where we cannot absolutely prove, we must make deductions from probabilities: and few probabilities can be nearer to certainty than that children are different. It is as nearly certain as we can hope to make it that persistent, patient, loving, individual training will fail to enable some children to become musicians or rugger players. The facile theory that our weaker pupils are so, simply because our wicked teachers (and the whole wicked system) pay too much attention to the brighter ones only needs to be stated to be condemned. The existence of the indisputably ineducable (some the children of the despised middle and upper classes) is evidence enough: for no one presumably will be brave enough to reason that only two sorts of mentality exist—the wholly intelligent or the wholly stupid: children do exist at all levels between these two extremes.

Fortunately for the problem of selection for secondary education, it really does not matter whether or not it is proved that inherited intelligence is a myth, or that all children have the ability to profit from a common education, whatever their social background. For the problem is a practical one, concerning real children, and common sense is more valuable than theory. Both observation and experience tell us that some children are brighter than others, and that the brighter ones must be taught separately if they are to be taught properly.

There is no need at all for them to be taught in a separate school: the “A” stream (for there is no disguising the *fact*, so why object to the *name*?) of a Comprehensive School can reach the same end as a separate Grammar School. If the

Comprehensive School has faults, they are not those of failing to teach well: in some ways, as will be seen, it can do better than the small school. But at some stage it must identify its clever children, and for the above good reasons it should find them quickly, or let the primary schools do it. If the present sort of selection procedure continued, Comprehensive Schools could accept the pupils as thus sorted. We cannot abolish selection altogether: pupils must be assigned to certain types of education *within* a large school.

Reluctantly granting all this, some theorists then shift their ground. As any method of selection is liable to leave out of the top layer one or two who ought to be in it, they stress that in a Comprehensive School it is a simple matter to transfer any pupil from one class to another, and so rectify mistakes as they come to light. This is a very different matter from denying the need to select at all. It presupposes a continuous process of gentle shuffling, and there is no doubt that a Comprehensive School could do it more easily and effectively than is now possible.

Some schools are constantly doing a kind of general post with their pupils, basing their moves on regular examination marks—in some cases, even more often than once a term. Most schools have a feeling that too much change is bad, and so promote or demote once a year, on the strength of annual examinations and/or teachers' opinions. A few leave classes alone for as many years as possible, judging it to be more in the child's interest to remain as he began, as long as he can do the work reasonably well, and to have his friends with him year by year. No scientific investigation has been made of the effects of shifting children often from

one stream to another, but ordinary reasoning would suggest that it can be overdone. The boy who starts in 1C, goes to 2B, then to 3C and 4B, is probably a bad advertisement for the running of the school; in fact, he is showing remarkably consistently that he is another sort of border-liner (border-lines are infinite in number), and that no injustice is done if he is left all the time in either the "B" or the "C" group. But he ought probably to be left in one or the other. It can actually harm him to be moved from the "C" to the "B" stream, if he was happily doing well in the "C", but will be unable to do more than trail at the bottom of the "B". Few changes, and those thoroughly justified, should be the rule.

The Comprehensive School, with its much greater number of classes, has a correspondingly larger number of artificial but inevitable border-lines. They are best not crossed too often. The important thing is to give a sense of stability, which for the great majority of pupils is more important than an illusion of high flying. Hence it would seem that the proper task of any school, but especially of a really big school, is not to look for constant refinements of graduation from one level of ability to another, but to do everything possible to make the pupils happy and satisfied in lower streams, without any feeling of failure. If this could be achieved, parents would be less worried about trying to force their child into an unsuitable class.

The principle applies just as forcefully to the present border-line between the bottom of the Grammar School and the top of the "next-best" as to any other part of the secondary school population. It should not be crossed too often. The children

immediately above it are not likely to become outstanding professional men, those immediately below are equally unlikely to be potentially brilliant scholars deprived of a fair chance. And there are specific reasons operating in this zone which are less powerful at any other point. The academic course is pretty crowded; some may think it overcrowded, but that is not likely to be altered soon or at all. Those who have the ability are made to use it there: they learn abstract mathematics, foreign languages, scientific principles, from an early stage in their secondary school career. The corollary is that it is not easy for anyone to join it late, and those who do should normally not be expected to do everything that the others have been doing. Late arrivals can best use their newfound talents in a more restricted way. Nevertheless, there are exceptions, and the system must allow for them. Undoubtedly, it would be less difficult for a Comprehensive School to do it; it would be just a case of routine promotion. At the same time, in many areas transfer from one school to another is becoming increasingly easy, and there is no reason why smooth transfers, though few, should not be normal. Provided it worked, it would not much matter if it were done within one school or between two: the stimulus of fresh surroundings in a move to a different school, and the confidence that comes from familiarity with an existing school, are mutually exclusive advantages of about equal worth.

At present, transfers to a Grammar School are regularly sought for reasons of parental prestige more than of children's ability, and while Grammar Schools continue to be held in higher esteem than other schools, this will go on.

But it is by no means clear that in a nation of Comprehensive Schools the same prestige will not attach to whatever takes the place of the Grammar School inside the Comprehensive School. Smith, whom we met some pages back, will still be among the *élite*: Robinson, non-academic, will be doing other work. There is no answer to this, so long as, in our snobbish way, particular jobs or professions are felt to be superior to others: the basic ideal is that if each works his best according to his 'capacity, we should not despise those whose capacity is small.

If ease of transfer is a main reason for setting up the Comprehensive School, it is worth seeing if the same result can be reached by less drastic means, and in some areas this is being tried. The prime need is to blur the border-line, so that it ceases to represent a sharp cleavage between two different types of pupil. The obvious method is to see that the top of the next kind of school does similar work to what is done at the bottom of the Grammar School, and it is along these lines that we can best hope to make progress. It is important to bear in mind that it is not the *top* of the Grammar School that should be imitated. Condemnation is rightly made of any idea that a secondary modern school, for instance, should centre its efforts on a small group that can take a profusion of G.C.E. subjects. The bottom streams of Grammar Schools have pupils who are unlikely (and this for statistical reasons) to have much G.C.E. success, and they and the tops of other schools can make common ground of some lesser ambition. This can take a number of forms. It might be worth while introducing another pass grade in existing G.C.E. subjects: or taking more practical examina-

tions of the City and Guilds type: or creating fresh certificates suited to just these children. It is only in this zone that such a solution is available, for we cannot extend indefinitely down the I.Q. scale a system of written examinations, which call for brainpower and the ability to express oneself on paper. It is however possible to visualise a good examination target for those just under present Grammar School ability, namely, those border-liners whose fate this book has kept on investigating.

Such schemes are already operating. Southampton groups the abler secondary modern pupils into various centres for specialising in certain sorts of more advanced work, and reports are encouraging. West Suffolk runs courses for girls over fifteen, and is finding them very popular. What is especially interesting is that a few Grammar School girls have joined the courses, and the transfers have been in every way satisfactory. One significant comment, that "these Grammar School girls have taken positions of responsibility as prefects", will be referred to again. If the disillusioned Grammar School near-failures and the ambitious secondary modern top pupils can be brought together with their own objectives, a really important educational advance will have been made. Comprehensive Schools could do this, and this constitutes a good argument in favour of having them: but there seems no reason to suppose that it could not be done widely within the existing system.

The claim has now been examined in some detail that the Comprehensive School solves the problem of selection, and that of transfer from one secondary course to another. The former it cannot do, the latter it can, but so too could the

present schools. We move on to another claim, that the Comprehensive School represents democracy in action, and is in fact the only logical form of education for a society that has abandoned its old oligarchic notions. The argument, briefly put, says that in such a school there would be equal opportunity for all, at work and play, and that by seeing himself to be visibly part of a complete whole, the pupil bonds himself to the community, and is fired by the community spirit.

For instance (it is said), whatever his academic attainments, a boy can expect, in a Comprehensive School, to be on a par with all the rest on the games field, in the Natural History Society, in the school play, in the positions of responsibility that are always a feature of the upper school. He may not shine academically, but outside the classroom he will hold his own with anybody, we are told. Now to urge equality of opportunity as a reason for anything these days is once again a parental revolt against an imagined social slight. It is the social problem of selection transferred to a wider set of conditions. The first reaction of the thoughtful reader must be: Surely it does not need a Comprehensive School to enable a boy to show his abilities, whatever they are? Can he not be a good centre-forward where he is, or run his particular hobby among his present companions? Need he have enormous numbers from whom to choose his pals? Unless he is in a very badly run school, the best is already being brought out of him. The rejoinder may be made that the Comprehensive School is so big, and therefore has so many more facilities, that he is more likely to find some niche there. This may be true, though it is open to doubt,

in as much as a sort of mathematical law operates whereby the greater the number of pupils competing for these more numerous facilities, the smaller is the chance that the less bright will compete successfully. We are thus brought at last to the question of the bigness of the Comprehensive School.

Why need such a school be big? For educational reasons, there should be a fair-sized Sixth Form, to justify reasonable use of the specialist staff available. If only half a dozen—or less—Sixth Formers are available, it would not be possible to provide the variety of advanced courses which are surely desirable, without wasting quite disproportionately the potential effective teaching power; besides, a tiny Sixth, all of whose members may be doing different courses, is bad in that its pupils lose the stimulus which they would give each other in concerted studies. The lone student has a teacher to himself, but lacks the impact of fellow minds. However, Sixth Forms cannot be created out of nothing. They consist of academically minded pupils (not necessarily of University calibre, though many are) who represent the best of an academic course. A two-stream Grammar School is about the minimum desirable size for producing a proper Sixth Form: a three- or four-stream one gets a greater amount of effective use from its specialist staff. By the simple arithmetic already shown in reverse on page 143, a Comprehensive School would need up to 2,000 to get a Sixth Form of the size produced by the average three-stream Grammar School.

There is no other real educational objection to a small Comprehensive School, and of course, if one accepts the

Simon thesis that children do not need to be differentiated by ability, then nothing more need be said. For those who are well aware that one *must* select, the need for bigness is paramount.

In a thickly populated city, there are other practical reasons why the school must be big. Land is scarce, and schools cannot spread far and wide. One school of 2,000 will take up very much less space than four of 500, because the four would have in quadruplicate some facilities which need appear only once in the big school—medical room, theatre, rest room, projector room—whilst other rooms, though more in number, can be packed closer if they all belong to the same set of buildings. In difficult circumstances, the large school can save land by expanding upwards: some L.C.C. schools are planned to have six to nine storeys. For social reasons, too, the school must represent a complete cross-section of the local community, and a populous district must therefore have a very large school to accommodate all the children of secondary school age in the area. But not all areas find it easy to create Comprehensive Schools that are big enough. Country districts will have to draw on a wide area if they are to reach a suitable size. Indeed, it is regularly urged that rural pupils should often be expected to become boarders for this reason.

To examine the effects of this bigness is not easy, for theory and guesswork have to be mixed with known facts. The general picture would seem to be like this. The total area of a Comprehensive School with all its precincts can be many acres, and although designs vary, it is usually true that the buildings themselves cover a large area also. The

distances involved in the mere process of getting round the place make one of the first problems for the new headmaster: somehow the 2,000 pupils have to go through a day without tramping miles or criss-crossing in corridors. They need to go to various classrooms, to laboratories, to art rooms, to gyms, to craft-rooms, laundry, or music-room: they eat, they rest, they play outdoor games, and follow indoor hobbies: they meet in clubs and special groups. All this is the normal day-to-day life of most secondary schools, and the only difference in a Comprehensive School is that there are so many more doing it.

The architect has various ways of meeting the problem, but he cannot solve it, because he cannot change the facts: his best treatment of it will be the one that creates the fewest difficulties. The principle is easily seen but not easily applied: these numerous buildings must be spread over the site in such a way that the pupils use them with the minimum of movement. Some possibilities at once suggest themselves, and each is being tried, and is working.

If the children are effectively streamed, one could have the various streams concentrated. The academic pupils would use one block, the technical ones another, and so on. Certain specialist rooms are more necessary for some streams than others, so that convenient groupings can be made. But the division between streams is not clear-cut, and, in any case, the spirit of the Comprehensive School is against appearing to retain the present system of separate schools, even when they are grouped on one site. Certainly any such use of the buildings is likely to accentuate the distinctions which the school is planned to blur.

Another arrangement draws horizontal lines, by age, through the whole school population. All the first year live and work in one part, the second elsewhere, and so on to the Olympic domain of the Sixth. This has its points, but it really is not much related to the educational problem: children of all ages need the geography room, the biology department, and the rest, and they are likely to spend a lot of time walking if they are generally grouped by age.

Hence other areas favour a vertical distribution, creating in effect the house system familiar in boarding schools. Each sub-group of buildings contains, say, one-eighth, or 250 children, who work and play as a unit, and develop a corporate sense of their own. One authority has this scheme so developed that each house not only dines and spends its leisure in its own company, but for some of its work is separately taught, in its various streams. This, of course, is meeting the problem of size simply by division into parts which are planned to be in some ways self-contained, in other words, by creating eight schools so far as many activities are concerned. And if the houses become less watertight from each other, they will all be sending their inhabitants over all the premises in pursuit of a normal day's teaching. In boarding schools the house system has a purely functional, residential *raison d'être*, and much time and energy are wasted in the process of footing it from one part to another; yet they are mostly small in comparison with a Comprehensive School. This is a very difficult problem, for if a school must be big, there must be big distances to cover regularly.

It is not only the pupils who have to be considered

Indeed, in some ways their case is not as troublesome as that of the staff. The children, however subdivided, do at any rate live in compact groups that give them a real communal existence. The teaching staff, being so much smaller, cannot in their own "houses" or "blocks" develop the Common Room zeal which comes from regularly meeting, to talk over school matters, such as teaching points or problem children. Few outsiders realise how much the school staff discuss individual pupils. Jones, who is always getting into trouble in 3D, or who has to sit at the front because of his eyes, or who seems unaccountably to burst into tears this term, is considered informally, and usually sympathetically, during Common Room conversation, so that a consistent and helpful method of dealing with him can be quickly evolved. Far more valuable decisions are thus taken about individuals than come as a result of formal staff meetings, or termly reports, or teachers acting independently. It can only happen, of course, if those who teach Jones are in regular and informal personal contact. A very large school has a very large staff: a school of 2,000 can be expected to have certainly over 100, and of these probably ten are teaching Jones—it could hardly be appreciably more. The chances of their regularly meeting each other are small unless the staff are as carefully streamed as the children, so that a whole block of pupils is taught by a corresponding block of staff: but then we are back to the idea of separate small schools, accidentally, as it were, running next door to each other.

If this is true of the 100 assistant teachers, it is a hundred times truer of the Head teacher. Even in a school of 500,

the Head can hardly hope to know all the children well, and maybe not all of them even by name. He does, however, get to know them as they become seniors, and in their last year can reasonably expect to be a personal adviser and friend. This would be beyond the powers of the one in charge of 2,000 even if the administrative machinery did not occupy much of his working energy. His place must necessarily be taken by a number of lesser heads—heads of houses, heads of forms, heads of departments—who may do the job well, but who, once more, exist simply to break up the big school into smaller units.

It is easy to overstate the case against bigness in a school. Its effect is felt in organisational problems, but it is unlikely on the whole to strike the pupils themselves as unpleasant, except in bad weather. A pupil is not going to be overwhelmed by the vastness of his environment or by the complexity of the system, for the simple reason that he does not look on himself as part of a vast unit, but as a member of a small one. Although he may, for some of his work, join different groups for different studies, he has a small set of friends whose company he prefers, and the rest he ignores. His unit is not the great school, nor the house, nor even the class: it is his own group of friends. In certain circumstances, these may be the junior cricket team, or one part of the Natural History Society. Hence a child's loyalty is towards a very much smaller unit than his school, and the school can become indefinitely large without upsetting him. The converse of this, however, is important. Just as the size of the school does not bewilder him, so it fails to impress him. He is unlikely to develop the adult pride in

being a member of a living community, or feel that here is democracy in action where he is gallantly playing his little part on a big stage. He is, all the time, playing a big part in his own eyes, and the stage, for him, is a small one.

However, although a child finds his friends, and enjoys their company, there are occasions, even when he is young, but much more as he moves up the school, when he legitimately wants to outshine them. Prizes are under a cloud in some circles at present, but the mere abolition of prizes and prize-giving ceremonies does not abolish the spirit of emulation of which they are the outward expression. The prize need not be a book presented on a public occasion: it can take pathetically simple disguises—the right to refill inkpots, the responsibility for keeping a blackboard clean, the repair of the footballs. For many schools, including some that have abolished official prizes, the greatest prize is the award of a prefectship. Only the outstanding children are likely to be entrusted with prefectorial responsibility, involving, as it does, setting an example and a tone to the whole community, but “outstanding” is a term whose meaning varies widely with circumstances.

In a school whose children were all of, say, 70–80 I.Q. (there is probably no such school) a child with an I.Q. of 85 would find his place and prove invaluable as a leader of the others, developing tremendous proper self-esteem in the process. A school whose pupils’ intelligence covered the whole scale would have nothing comparable to offer the less-than-average child. This would not be the fault of those who failed to put this child in charge of anything: it would be inevitable. The brighter ones must, by and large, take

WHY SELECT AT ALL?

control. This is broadly true on the games field as well. Muscle may occasionally win, unaided by brains, but in general it is the bright (and athletic) person who makes the best captain or leader because he can impose his personality and make his influence felt.

It can be taken as a law of nature that in any school the most intelligent will win most of the prizes—they will be top of the form, presidents of the debating society, prefects, leaders of expeditions, the best stamp collectors, the most energetic organisers. This will be so, even if conscious efforts are made (wrongly, surely) to prevent some of it from happening. A school of 2,000 will be run chiefly by its top layer: anything else would merely waste talent or frustrate ambition. Any artificial attempt at widely *sharing* responsibility with the “ordinary” pupil will not be practical; and no attempt can or should be seriously made to give the less able the illusion of being as good as the best when measured by the same standards.

The corollary is that, from this point of view, the smaller the school can be made, the better. Suppose a particular area has 2,000 children of secondary school age. Put them all into one school, and about 50, nearly all of them of high I.Q., will achieve responsibility and a satisfying sense of achievement, with all the profit that that entails for character-building. Divide the pupils among five schools of 400, and each will throw up a score of leaders. For the less-than-brilliant children, the very best school is one in which, if they have it in them, they can develop themselves by leading the rest. The worst fate that can befall ordinary children is to let them be swamped or crowded out by the

few brilliant ones. Even a small number of girls imported from Grammar Schools in West Suffolk, we saw, tended to lead the rest. Keep schools small, and you really do give everyone a chance.

There is one advantage which does come from bigness, and which is therefore an irreconcilable opposite to those difficulties which cry out for a school to be small. The more pupils and teachers there are, the more flexible (though complicated) can the organisation become. It is possible to provide a great variety of courses to meet a variety of needs. Only those who are intimately familiar with the construction of time-tables realise the enormous value of an extra teacher or two, even if the number of children increases correspondingly. Juggling is far more difficult with 160 pupils and 8 staff, than with 600 pupils and 30 staff, even though the proportion is the same. This is because the lower forms can be taught by comparatively few staff in comparatively large blocks, so that the bigger the school, the more fragmentation can go on in the senior forms.

In the school of 160, there may be (in round figures) five classes of 30, and a Sixth Form of 10. These five classes will at any moment need five teachers: of the remaining three teachers, one will be free, to act as a reserve and to have marking and preparation time, so that two remain to share the Sixth Form. This Sixth Form can therefore be divided into only two different groups being effectively taught, whereas a Sixth Form needs dividing into half a dozen sets if even normal courses are to be provided for its students. The school of 600, on the other hand, will

be working roughly like this: 18 teachers will take 18 classes of 30, four may be free, leaving eight to look after a Sixth Form of 60. This provides a very different and more desirable set-up, and makes it possible to cater for many separate advanced courses and really staff them properly. Presumably a school of 2,000 can extend the fragmentation further down the school. The number of different courses can be great enough to enable any individual pupil to find one to suit him, and the staff can be used to the best advantage.

Let a word be said in passing about the popular fallacy (surely not believed by most of those who repeat it, though perhaps convincing to the unlearned) that "Eton is a comprehensive school for its own social class; what is good for the public schools is good for all our children". The plain fact is that the Public Schools in general contain very few children who would have "failed" the secondary school selection test: many a boy who, as a baby, has had his name entered on the list of a famous school, fails to go there, for no other reason than that he cannot make the grade intellectually. Children of the fee-paying classes with low I.Q.s either descend the scale and find acceptance at some minor Public School, or they are "educated privately". It is not altogether fanciful to say that our Public Schools are themselves streamed by ability, with the brightest children reaching the most famous schools.

Comparisons made with the systems of other countries are not very helpful in leading the unbiased observer to a fair conclusion, because we know too little of the details, we cannot say how far the educational system really

expresses the national character, and our personal opinion of the country concerned will colour our judgments. Those who admire America may find exceptional merit in its educational system (if it can be said to have one system) while the anti-American group may blame its schools for its shortcomings. Both may be wrong, in ascribing results to the wrong causes. It would be on a par with thinking that Italy, say, or New Zealand, has a "Socialist" or "Conservative" government, and is therefore of the same political complexion as its British counterpart would be. It is not very useful to assert that the American school is usually comprehensive and usually quite small, consisting of 300 pupils rather than 3,000; or to assert that the Russian school can be any size, and that all its pupils follow fundamentally the same courses. The whole *purpose* of education can be different in different countries, and without a knowledge of what is happening to the really bright young Americans and Russians, or of what might happen to them if their education were organised in some other way, we cannot take our argument any further. British problems have to be discussed and resolved in a British setting.

Both the merits and the drawbacks of Comprehensive Schools can be over-urged. There is no certainty that they would do away with the social distinctions implied in our present system, for these distinctions reappear there internally; in any case, the present system is based on intellect, not on social background. Comprehensive Schools do not settle the vexed question of selection for types of education, though they do not make such a public display of the

problem as the present system does. Comprehensive Schools do make for ease of transfer from one course to another; but the present system could be improved in this respect, and in any case it is a device to be used sparingly. Comprehensive Schools provide a very wide choice of possible courses, and can readily staff them; most schools today are too restricted in what they attempt. The Comprehensive School enables more children to get together in out-of-school activities, but they are likely on the whole to meet in small groups that correspond to their in-school ability and friendship, so that the result would not be very different from what we now have. The Comprehensive School, by its size, would create organisational difficulties, would not give much chance of leadership to the merely average, and might retard the really clever, but would allow great flexibility in teaching.

If we were starting with no schools, and serving on a Royal Commission to advise on setting up an educational system, we might, perhaps, come down in favour of Comprehensive schools everywhere. If we did so, it would be because we were more concerned about what parents think than about what children really need; this would not be an unreasonable basis for our suggestions, for parental co-operation is all-important. But it happens that we already possess large numbers of schools, and it is manifestly out of the question that they shall all now be scrapped. The only practical problem is whether we are to scrap *some* of them, as circumstances allow, and there is really less need to hurry over this than some theorists assert.

Meanwhile, one of the most urgent needs in the educa-

THE CHILD OF ELEVEN

tional world today is the steady blurring of border-lines. Interchange between different types of school ought to become easier and more normal, and the kind of education given in one type should not be so sharply different from that in another as to make such interchange difficult. The schools should severally aim at providing an education suitable to their pupils' ability, and the tests now widely used seem to offer a good method of identifying this ability. They have faults. They are perhaps only a more efficient version of the old-fashioned scholarship examination, and supplemental ways of improving them must be explored and used. Nevertheless, it can fairly be said that they are the best instrument we now possess for allocating children of eleven to the education most suitable for them.

Suggestions for Further Reading

FOR the general background to a study of English education, a few useful works are:

H. C. BARNARD. *A Short History of English Education from 1760 to 1944*
University of London Press Ltd., 1947.

H. C. DENT. *The Education Act, 1944*. University of London Press
Ltd., 1956.

JOHN GRAVES. *Policy and Progress in Secondary Education, 1902-42*. Nelson,
1943.

G. A. N. LOWNDES. *The Silent Social Revolution*. Oxford University
Press, 1937.

G. A. N. LOWNDES. *The British Educational System*. Hutchinson's
University Library, 1955.

This book does not cover Scottish Education.

For the background to the problems of allocation, the two Consultative
Committee reports are essential:

The Education of the Adolescent. H.M.S.O., 1926.

The "Hadow" report.

*Secondary Education, with special reference to Grammar Schools and Technical
High Schools*. H.M.S.O., 1938.

The "Spens" report.

Books on methods of selection abound. Those written by administrators
include the following:

WILLIAM McCLELLAND. *Selection for Secondary Education*. S.C.R.E.:
University of London Press Ltd., 1942.

DOUGLAS M. MCINTOSH. *Promotion from Primary to Secondary Education*.
S.C.R.E.: University of London Press Ltd., 1948.

W. GLASSEY and E. J. WEEKS. *The Educational Development of Children*.
University of London Press Ltd., 1956.

D. W. OATES. *The New Secondary Schools and the Selection of their Pupils*.
Harrap, 1946.

The above two books pay special attention to record cards
and assessment of character traits.

SUGGESTIONS FOR FURTHER READING

- A. SUTCLIFFE and J. W. CANHAM. *Selection for Secondary Education, without a Written Examination*. Murray, 1945.

Describes the Lincoln scheme.

- REESE EDWARDS. *Classification for Secondary Education*. Wigan Printing Company Ltd., 1951.

A pamphlet about the psychograph and the Wigan scheme.

- J. J. B. DEMPSTER. *Selection for Secondary Education—A Survey*. Methuen, 1954.

A good general book, with particular reference to Southampton.

The number of books on mental testing generally is vast, and most of them are of a technical kind. Only a few are mentioned here:

- Psychological Tests of Educable Capacity*. H.M.S.O., 1924.

- C. A. RICHARDSON. *Methods and Experiments in Mental Tests*. Harrap, 1922.

- C. BURT. *Mental and Scholastic Tests*. Staples, 1949.

A standard reference work.

- Special Place Examinations—A Report*. University of London Press Ltd., 1941.

Deals critically with the work of an enlightened authority in the pre-1944 era.

- A. F. WATTS and P. SLATER. *The Allocation of Primary School Leavers to Courses of Secondary Education* (The First interim report of the National Foundation for Educational Research). Newnes, 1950.

The earlier parts of this are non-technical and painful.

- PHILIP E. VERNON. *The Measurement of Abilities*. University of London Press Ltd., 1956.

- A. F. WATTS. *Can We Measure Ability?* University of London Press Ltd., 1953.

A summary, and on the whole a defence, of the present eleven-plus techniques.

- FRANK M. EARLE. *Reconstruction in the Secondary School*. S.C.R.E.: University of London Press Ltd., 1944.

Gives a Scottish viewpoint: associated with the "Fife" tests; has a useful commentary on the McClelland investigation, and makes a plea for character assessments, and for multilateral schools.

Books on Secondary Modern schools are fewer, but many Authorities have published accounts of those in their areas. A general picture can be found in:

- A. H. T. GLOVER. *New Teaching for a New Age*. Nelson, 1946.

SUGGESTIONS FOR FURTHER READING

H. LOUKES. *Secondary Modern*. Harrap, 1956.

The Comprehensive School is increasingly represented in book lists, but many of the writings are violently partisan. A pamphlet, "The Comprehensive School," issued by the English New Education Fellowship in 1950, summarises the arguments in favour. Two books associated with Dr. R. Pedley deal with present schools and future possibilities:

Comprehensive Schools Today. Councils and Education Press, 1955.

A survey of schools already in being.

Comprehensive Education: A New Approach. Gollancz, 1956.

Argues that we can have *small* comprehensive schools by cutting off the Sixth Forms.

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THE CHILD OF ELEVEN

A Brief Survey of Transfer Tests Between Primary and Secondary Schooling

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